

OCTOBER, 1949

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117

Commercial Refrigeration

AND AIR CONDITIONING



6th All-Industry
REFRIGERATION AND
AIR CONDITIONING
Exposition

NOVEMBER
14 TO 18
1949

ATLANTIC CITY, N. J.

MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT

This is one of a series of advertisements outlining the advantages of "Freon" refrigerants

WHY "FREON" REFRIGERANTS GAIN NATION-WIDE ACCEPTANCE

OUTSTANDING CHARACTERISTICS OF "FREON" REFRIGERANTS

- NONTOXIC
- NONFLAMMABLE
- NONEXPLOSIVE
- NONCORROSIVE
- ANHYDROUS
- PURITY
- QUALITY
- ACID FREE
- NARROW BOILING-
POINT RANGE
- AVAILABILITY

There are no acids in "Freon" safe refrigerants. Since the softer metals, especially, would be readily attacked by acids, this acid-free quality means that a broader range of materials may be safely used in equipment designed to utilize these refrigerants. Furthermore, absence of acids also assures freedom from reaction with lubricating oils and attack on gaskets and seals.

"Freon" refrigerants are also safe . . . non-toxic, nonflammable, nonexplosive and non-corrosive. Should a leak or breakdown occur, "Freon" refrigerants will not injure people or pets; damage furs, fabrics, foods or finishes. These refrigerants are classified among safe refrigerants listed in group 1 of the A.S.A. B-9 code.

Laboratory-supervised methods of manufacture control every phase of the production of "Freon" refrigerants. Frequent tests and inspections are your assurance of purity and quality . . . vital to economical, efficient and continuous performance of the modern air conditioning and refrigeration systems.

These characteristics, and the fact that there is a "Freon" refrigerant for every commercial, industrial and household application, are reasons why engineers and manufacturers recommend equipment designed to utilize "Freon" . . . why "Freon" safe refrigerants have gained nation-wide acceptance.

Kinetic Chemicals, Inc.
Tenth and Market Sts., Wilmington 98, Del.



FREON *SAFE* REFRIGERANTS

"Freon" is Kinetic's registered trade mark for its fluorinated hydrocarbon refrigerants

402



ALCO 402 THERMO VALVE

field tested and proved on more than 12,000 actual installations!

This compact little gem (only 4-3/16 inches high) is the *biggest* valve success in years. Reason: it combines all the best features perfected during our 25 years of refrigerant control experience—designed expressly for small commercial fixtures (capacity up to ½ ton F-12 or 1 ton Methyl Chloride).

THE VALVE THAT HAS EVERYTHING:

LIQUID CHARGED...mount anywhere in any position

SMALL FORGED BRASS BODY fits into those "tight" spots

SEPARATE PRESSURE LIMITING element prevents motor overload

WIDE SUPERHEAT ADJUSTMENT range (2° to 20° F)

REMOVABLE STRAINER gives maximum protection—easy cleaning

We'll gladly send Bulletin 402 with full details. Better yet, order an ALCO 402 Thermo Valve from your wholesaler and see for yourself what a great performer it really is!

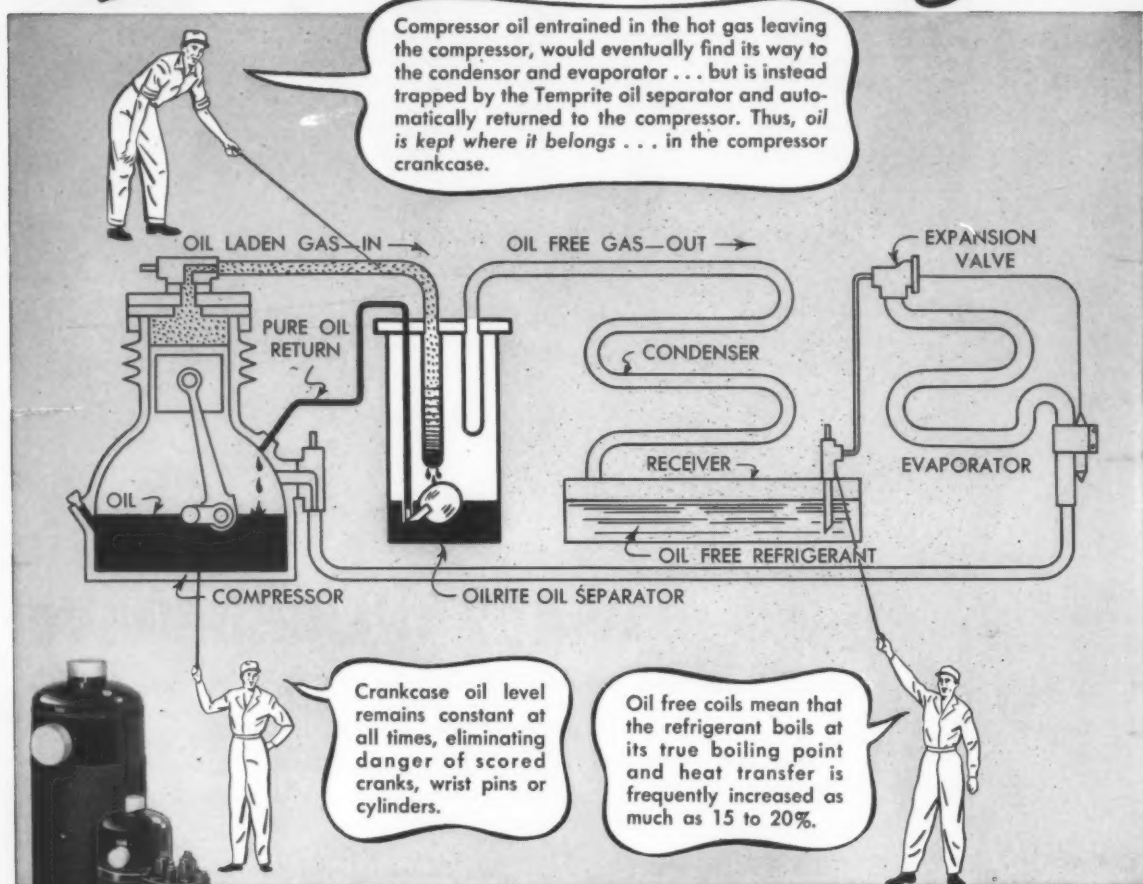


Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
Float Valves; Float Switches.

ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

Keep oil where it belongs...



Available in capacities from 1/6th h.p. to 50 tons . . . for all types of commercial applications.

...with a **TEMPRITE** oil separator

Oil congeals quickly in low temperature coils, cutting down heat transfer and boosting operating time. Because of this common difficulty it is frequently impossible to reach desired temperatures. A Temprite Oil Separator overcomes

this problem and permits the refrigerant to boil at its true boiling point. Temperatures from 4 to 7 degrees lower are easily reached at no increase in operating time.

Write now for full particulars.

TEMPRITE PRODUCTS CORP.

ESTABLISHED 1929



CABINET WATER COOLERS



COOLER CARBONATORS



COMMERCIAL WATER COOLERS



SODA FOUNTAIN COOLERS



TEMPERATURE CONTROL VALVES



DRAUGHT BEER COOLERS



OIL SEPARATORS



ACCUMULATOR HEAT EXCHANGERS



INDUSTRIAL WATER COOLERS



EQUALIZER TANKS

Originators of Instantaneous

80° 40°

Liquid Cooling Devices

OCTOBER, 1949

VOLUME 6, NO. 10

Commercial Refrigeration

AND AIR CONDITIONING

Established 1944 as
THE REFRIGERATION INDUSTRY

THIS MAGAZINE has no
official affiliation with ANY
group, society or association.



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1250 Wilshire Boulevard
Room 403

THE COVER . . . This is what Atlantic City's Auditorium—scene of this year's All-Industry Show—looks like from the outside. For a look at the exhibit area itself, turn to page 32. There you will also find a brief who-what-when-where preview of the industry's biggest event.

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Acceptance under Section 34.64, PL&R, authorized at Milwaukee, Wisconsin.

MORE SALES—less fuss

FAST!
AT 60 G-E
WHOLESALE
PARTS DEPOTS
ALL OVER THE U. S.



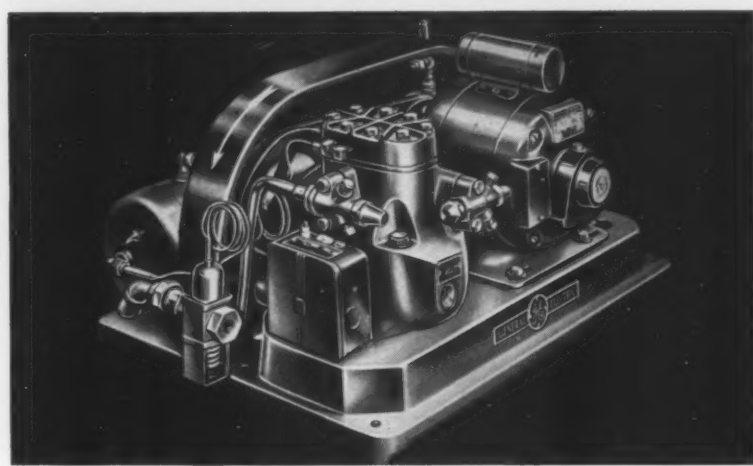

CONDENSING UNITS AND REPLACEMENT PARTS




A depot near you carries everything refrigeration men need!



No red tape—with over-the-counter G-E replacement policy.

You can get top-notch promotion and sales helps prepared by GENERAL ELECTRIC



Advanced design helps cut power costs—keeps customers satisfied.



More parts and service business for you. Over a million G-E commercial units in service today!



G. E. has top acceptance—easier to sell!



PRICED RIGHT!



G-E dependability brings repeat business.

G-E Parts Depots handle: G-E condensing units, 1/4-10 hp.; genuine G-E replacement parts for units 1/4-75 hp.; G-E compressor bodies, 1/4-75 hp.; G-E sealed condensing units for replacement.

FREE condensed catalogs

General Electric Company, Air Conditioning Department, Section CR-19, Bloomfield, N. J. Please send me the new G-E Condensing Unit and Replacement Parts catalogs and your compressor body selection tables.

I am a ☐ service engineer; ☐ dealer.

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Company.....

Address.....

City..... Zone..... State.....

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← TODAY**

GENERAL  ELECTRIC



"Keep cool with ESTON!"

Eston

REFRIGERANTS

METHYL CHLORIDE

SULPHUR DIOXIDE

METHYLENE CHLORIDE

Distributors of

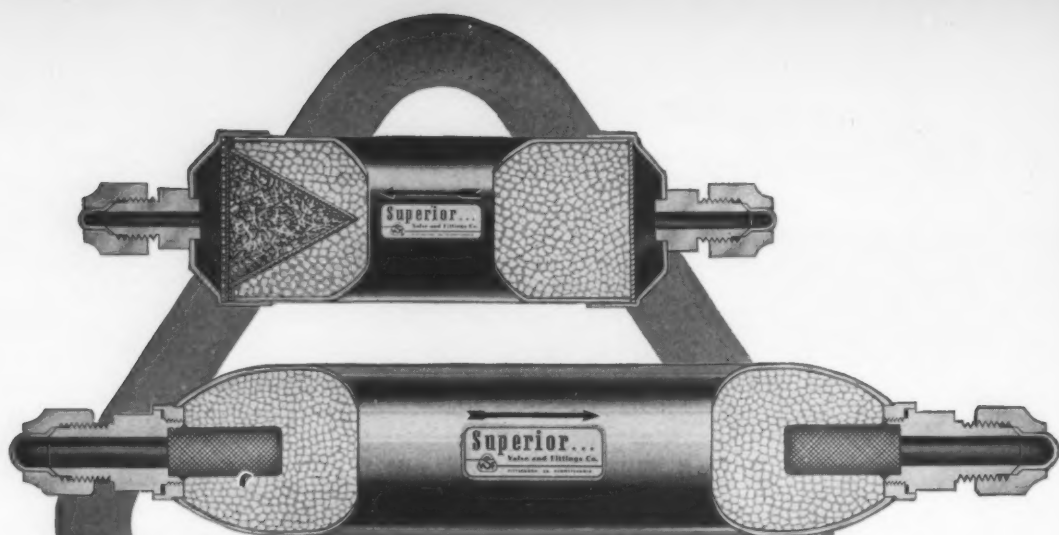
FREON 11-12-21-22-113-114



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WHOLESALE
IS A GOOD MAN
TO KNOW...**

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A NEW Line of

SUPERIOR DRIERS

The DRIERS with the *Plus Features*

- ★ MODERN DESIGN
- ★ EFFICIENT OPERATION
- ★ REFILLABLE AND NON-REFILLABLE TYPES
- ★ ALL BRASS CONSTRUCTION



For complete details and specifications on the New Driers and other Superior products, ask your Wholesaler for a copy of our NEW Catalog R3.

(or a copy may be obtained by writing to us)

159

Superior Valve and Fittings Co.



1509 WEST LIBERTY AVE., PITTSBURGH, 26, PENNA.
OFFICES IN PRINCIPAL CITIES STOCKS CHICAGO (6) - LOS ANGELES (15) - JOBBERS EVERYWHERE

Refrigeration that builds up your reputation



WHEN you install Carrier Compressors, you're giving your customers the kind of product that builds good will and more business for you. Unlike ordinary compressors, Carrier Compressors deliver efficient, economical service not only when they're first installed, but also after they've had hard use.

Carrier Compressors Keep Oil from Robbing Refrigeration

Most ordinary compressors perform up to par at the start. After a few months, however, they let oil get into the refrigerating coil to rob the refrigerant of its effectiveness. But not Carrier Compressors! They keep the oil where it belongs — in the crankcase. They do this by a series of Carrier-designed steps, among them:

- 1 An unusually large suction manifold, where entrained oil particles are separated from the mixture.
- 2 A 90° turn in the gas flow, which causes additional oil particles to impinge on the side of the manifold. This oil — plus the oil separated previously — is returned to the crankcase via a drilled passage.
- 3 An oil-return check valve between the suction manifold and the crankcase. This valve prevents oil from traveling from the crankcase back to the manifold.

Install Carrier Balanced Refrigeration for Best Results

Carrier Compressors and Carrier Cold Diffusers are designed and made to function as a team. Perfect partners, they deliver maximum refrigeration at minimum cost. The Carrier reputation, earned through early pioneering and years of constant research and practical experience in refrigeration, is assurance of satisfaction. Write for the Carrier Compressor Catalog CR240 or the Carrier Cold Diffuser Catalog CR241. Carrier Corporation, Syracuse, New York.

Carrier

AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

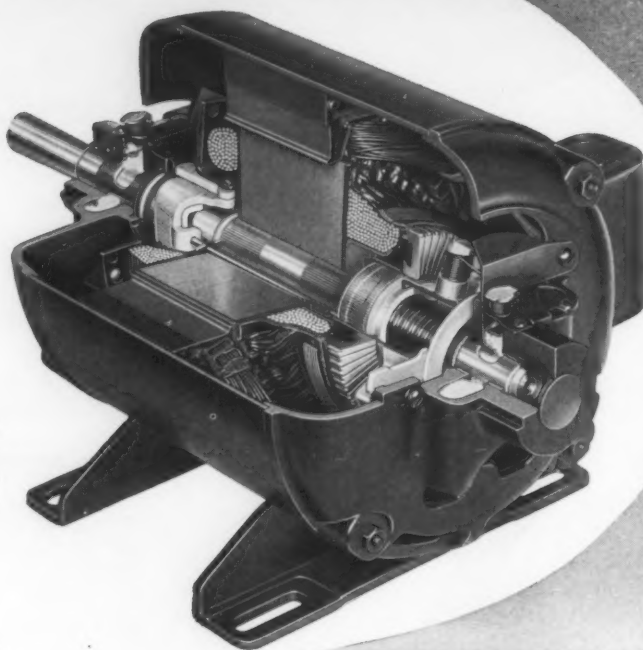
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choose this
two-in-one
Motor...

the famous

Wagner

Repulsion-Start
Induction Motor



The Wagner type RA repulsion-start induction motor is widely known as *the* "general purpose motor" of the single-phase motor field. Its electrical characteristics combine the best features of two types of motors: the repulsion motor during the starting period, and the induction motor while running at rated operating speeds.

This versatile motor is not only exceptionally well-suited for use on practically *every* type of motor-driven appliance and machine normally utilizing single-phase current, but is also the *only* choice for a wide variety of applications because of its low upkeep cost, minimum servicing, freedom from vibration and noise, and years of reliable service.

If you need motors that will build *real* customer satisfaction, choose Wagner Motors. The complete line covers a wide range of types and sizes for every application.

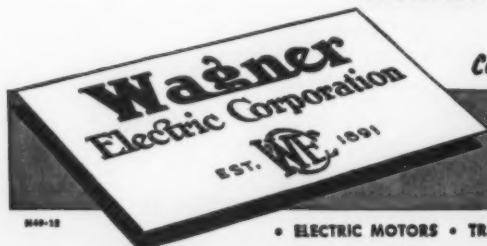
Buyers of Wagner Motors Get Nationwide Service!

More than 450 Wagner Authorized Electrical Service Stations and Parts Distributors augmented by 25 Wagner-owned Service Branches are ready to immediately supply on-the-spot service, factory guaranteed exchange motors, or genuine Wagner Parts. Write for Bulletin MU-24 for complete list.

Bulletins on the complete line of Wagner Motors are also available.

Wagner Electric Corporation

6442 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.



Consult Wagner Engineers on all Electric Motor Problems



• ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE PRODUCTS •

**SURE ROUTE
TO BETTER
DRYING**

**BETTER DRYING
BEGINS HERE...**

and

**ENDS HERE WITH
NO PRESSURE
DROP...**

INTERCHANGEABLE CONNECTIONS — 30, 50 and 75 cu. in. sizes have female flare threads fitted with male unions. This permits size interchangeability.

See Your Jobber!

THE IMPERIAL BRASS MFG. COMPANY, 536 South Racine Street, Chicago 7, Illinois

IMPERIAL

FITTINGS • VALVES • DRIERS • FILTERS
FLOATS • CHARGING LINES
TOOLS for Cutting, Flaring, Bending, Pinch-Off and Swedging

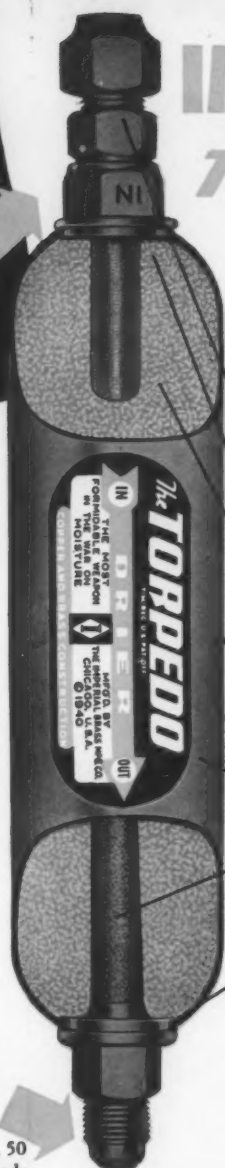
IMPERIAL TORPEDO[®] DRIERS

**... designed for faster
more efficient
drying action**

- Note generous wrench flats on hexes on both ends.
- Easily refilled on the job—no soldering required.
- Dust-free Silica Gel assures longer operation. No pressure drop—yet no sacrifice of drying capacity.
- One-piece copper shell. Fewer joints—less chance for leakage.
- Copper and brass construction.
- Greater filtering area. Finger-type metallic depth filter is graduated with drier capacity.
- Brazed—no soft solder joints that might loosen.

CAPACITIES — A complete line to meet all refrigeration applications. Capacities rated in accordance with REMA recommendations. All eight sizes—1/6 to 7-1/2 HP... 3 to 75 cu. in.—furnished complete with flare nuts and copper seal caps.

Ask for your copy of Catalog No. 80-A covering the complete IMPERIAL LINE.





CHASE COPPER SOLDER-JOINT FITTING ADAPTERS

(MADE OF TELLURIUM COPPER)

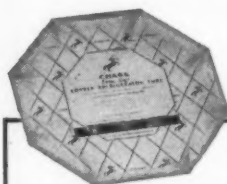
... Can
take
wrench
stresses!

NO need to fear pulling a wrench on Chase Copper Solder-Joint Fitting Adapters. They are designed for greater strength and resistance to deformation to withstand the stresses imparted by wrenches. Chase Adapters are also made of Tellurium* Copper, a special patented Chase alloy that machines into uniform, clean-cut threads—for tight joints.

In addition, every Chase Copper Tube Adapter is made with SO₂ threads in sizes through 1" nominal. And all Chase *Wrought Copper* Fittings are *made to fit* the tube accurately—and are as *sound* and *non-porous* as the tube itself.

Ask your distributor for Chase Copper Refrigerator Tube and Fittings. Both are made to the same high standard of quality.

*U. S. Pat. No. 2,627,807



Chase Copper Refrigerator Service Tube in sizes $\frac{1}{8}$ " to $\frac{3}{8}$ " diameter is packed in this *extra handy* package that prevents two-layer coil of tube from shifting. Tube is *extra soft* for easy working, and packaged in 50' standard lengths, with special sealed ends.

Chase



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SUBSIDIARY OF KENNECOTT COPPER CORPORATION

the Nation's Headquarters for
BRASS & COPPER

THIS IS THE CHASE NETWORK . . . handiest way to buy brass

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Why not Profit from Experiences of others?



"Proved dependability and the fine service I get from our Frigidaire Distributing Headquarters are two big reasons why I prefer using Frigidaire parts," says Ed Krantz, Ed Krantz Commercial Refrigeration, 1399 MacArthur Blvd., Oakland, Calif.



"The high quality of precision-built Frigidaire Service Parts has produced valuable customer goodwill for us over a period of many years," says Clyde A. Richardson, Richardson Electric Co., 12 Bridge St., Martinsville, Va.



"For best results, I use only genuine Frigidaire Service Parts on all Frigidaire equipment and use many Frigidaire Parts whenever possible on all makes," says Albert Ward, Ward's Refrigeration Co., 632 W. 4th Ave., Denver, Colo.

Frigidaire Service Parts mean Good Business For You!

Special Frigidaire Service Equipment makes your work easier, faster, more profitable.



1. Frigidaire Low Temperature Test-Meter. Increased low temperature and "Freon-22" applications make this a must for every refrigeration serviceman. It's a compact, accurate test meter that reads from -50°F to $+70^{\circ}\text{F}$ on a 2° graduated scale. Meter, resistance bulb and 15 feet of calibrated wire are enclosed in a leatherette case with carrying strap.

2. Frigidaire Thermo-Tester. Here's a sturdy little pocket tool that enables you to test and adjust switches on all household cabinets and many commercial installations *without removing control or switch*. It cuts job time from hours to minutes. You can also use it to test thermostatic switches and expansion valves in the shop.

3. Frigidaire Vacuum Pump — 1/9 HP. Lightweight, compact and portable, this pump has been specially designed for evacuating air before charging the system with refrigerant. It's an adaptation of Frigidaire's famous Meter-Miser Rotary Compressor—complete with starting relay, extension cord and gauge connections—a modern service requirement.

4. Frigidaire Leak Detector. You can instantly detect any traces of "Freon-12" with this compact, easy-to-use torch. It burns alcohol under pressure—producing a blue flame that changes color in the presence of even the smallest amount of "Freon-12."

•
•
• **FREE! Big new**
• **Frigidaire Parts Catalog.**
• **Send for it today!**
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FRIGIDAIRE

Parts and Accessories



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• Name.....
• Firm Name.....
• Address.....
• City..... County..... State.....

Drier THAN THE SAHARA

ANSUL Refrigerants

ANSUL OIL

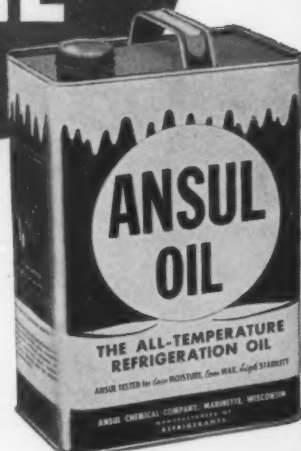


Reg. U. S. Pat. Off.

DRYNESS is a critical requirement in the specifications of ANSUL Refrigerants and ANSUL Refrigeration Oils. To safeguard the dryness of Ansul Refrigeration Products, specially designed container-drying and product-dehydrating equipment is used to eliminate the last trace of moisture.

Moisture in refrigeration systems results in the formation of ice, rust, sludges, and contributes to the development of other impurities and complications. These seriously interfere with the proper operation of a refrigeration system.

ANSUL Technicians have prepared a series of bulletins on the effects of moisture and other foreign matter in refrigeration systems. Copies may be obtained from ANSUL wholesalers or by writing directly to Ansul Research.



ANSUL 150 OIL —

The All-Temperature Refrigeration Oil — is sold by leading refrigeration wholesalers everywhere. (If you require a higher viscosity oil ask for ANSUL 300.)

ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION, MARINETTE, WISCONSIN
ANSUL SULFUR DIOXIDE, ANSUL METHYL CHLORIDE, ANSUL OIL, KINETIC'S "FREONS"

THE WORLD'S LARGEST DISPLAY OF
Refrigeration Equipment
 at the **6th** ALL INDUSTRY
 REFRIGERATION *and* AIR CONDITIONING
 EXPOSITION

SEE



SPORLAN EXHIBIT

SPORLAN MANUFACTURES

SOLENOID VALVES • SOLENOID PILOT CONTROLS • MODULATING PILOT CONTROLS
 REFRIGERANT DISTRIBUTORS • STRAINERS • CATCH-ALLS
*and the Only THERMOSTATIC EXPANSION VALVES with SELECTIVE CHARGES
 and FLOW MASTER ELEMENTS*

SPORLAN VALVE COMPANY



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Cold Storage Doors in a Machine Shop

Cold treatment of aluminum castings was found to impart desirable machining qualities to the metal.

This called for a sub-zero refrigerated space from which quantities of castings could be moved in and out readily. Jamison-built overlap type doors were selected. Ten inches of corkboard insulation were speci-

fied for the doors to equal the insulation of the walls.

Jamison cold storage doors are available for every temperature range and every type opening to refrigerated space. Our engineers will be glad to help you solve your problems. For information on Jamison-built doors, ask for Catalog 175.

JAMISON COLD STORAGE DOOR CO.

Hagerstown, Maryland, U. S. A.

Oldest and Largest Manufacturer of Cold Storage Doors in the World



Another **KEROTEST** *First!*



**FORGED
BRASS
GLOBE
VALVES**

Unequalled

- Quality
- Appearance
- Performance

STANDARD SIZES
7/8" to 2 1/8" OD

At your

KEROTEST

Wholesaler NOW!

AMERICA'S FIRST NAME IN QUALITY VALVES

KEROTEST MANUFACTURING CO.

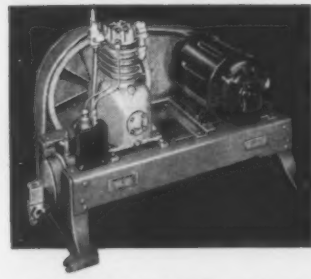
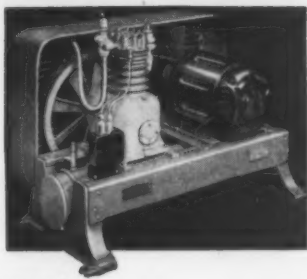
PITTSBURGH 22, PA.

MILLS COMPRESSORS AND CONDENSING UNITS



AIR-COOLED UNITS

	1/4 H.P.	1/2 H.P.	3/4 H.P.	1 H.P.	1 1/2 H.P.	2 H.P.	3 H.P.
Width	26"	26"	30 1/2"	36 1/2"	42 3/4"	42 3/4"	42 3/4"
Depth	18"	18"	21 1/2"	23"	25 1/2"	25 1/2"	26 1/2"
Height	17"	17"	19 1/2"	24"	31 1/2"	31 1/2"	31 1/2"
Net Weight	142 lbs.	146 lbs.	200 lbs.	276 lbs.	450 lbs.	460 lbs.	470 lbs.



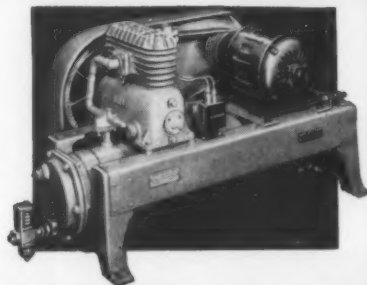
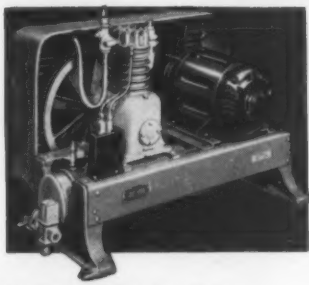
WATER-COOLED UNITS

	1/2 H.P.	1 1/2 H.P.	3/4 H.P.	1 H.P.	1 1/2 H.P.
Width	33 1/2"	33 1/2"	39"	39"	47 1/4"
Depth	17"	17"	18 1/2"	18 1/2"	21 1/4"
Height	19 1/2"	19 1/2"	24"	24"	29 1/2"
Net Wt.	188 lbs	194 lbs	265 lbs	272 lbs	435 lbs



COMBINATION AIR- AND WATER-COOLED UNITS

	1/2 H.P.	3/4 H.P.	1 H.P.	1 1/2 H.P.	2 H.P.	3 H.P.
Width	33 1/2"	39"	39"	47 1/4"	47 1/4"	53"
Depth	21 1/2"	23"	23"	25 1/2"	25 1/2"	26 1/2"
Height	19 1/2"	24"	24"	31 1/2"	31 1/2"	31 1/2"
Net Weight	212 lbs.	292 lbs.	306 lbs.	470 lbs.	482 lbs.	492 lbs.



WATER-COOLED UNITS (Continued)

	2 H.P.	3 H.P.	5 H.P.	7 1/2 H.P.	10 H.P.
Width	47 1/4"	53"	63"	63"	63"
Depth	21 1/4"	21 1/4"	29 1/2"	29 1/2"	30"
Height	29 1/2"	29 1/2"	32"	32"	34"
Net Wt.	445 lbs	455 lbs	895 lbs	945 lbs	1050 lbs



CLOSE-COUPLED UNITS

	1/4 H.P.	1/2 H.P.	3/4 H.P.
Width	19 1/4"	19 3/4"	22"
Depth	16 3/4"	18"	18"
Height	14 1/4"	14 1/4"	14 1/2"
Net Weight	106 lbs.	118 lbs.	159 lbs.



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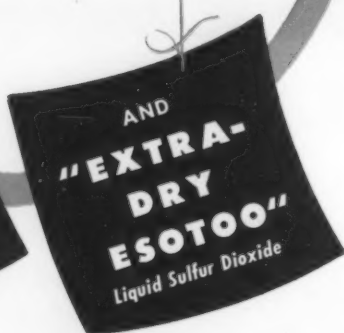
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LETTERS

Dealer Seeks Information On Maintenance Contracts

EDITOR:

I wonder if you would advise me of where I might obtain information on various types of service and maintenance contracts for both commercial refrigeration and air conditioning systems. If you have published information of this type in your past issues, I would appreciate your sending me copies and billing me for same.—Advanced Refrigeration Co., Cincinnati 2, Ohio.

In the July 1947 issue of our magazine we published an article dealing exclusively with this subject and reproduced typical commercial refrigeration and air conditioning inspection and maintenance agreement forms. These forms are available on a commercial basis from Reynolds & Reynolds Co., 800 Germantown St., Dayton 7, Ohio, a firm which specializes in the preparation and production of standardized business and accounting forms and systems.

Want to Build a Locker Plant?

EDITOR:

Am planning on constructing a locker plant about 300 lockers, and want your opinion regarding the Thermo-Bank versus a McQuay or similar water defrost speed freezer used to cool the locker room also. The McQuay would be a cheaper installation, wouldn't it?

What do you think about cork versus Zerocel or some similar insulation? Is cork worth the difference, and how much more does cork cost? Where can you get cork?

I enjoy the magazine, **COMMERCIAL REFRIGERATION AND AIR CONDITIONING**, very much. Thanking you for any of the above information you can give me.—Joe Wolf, Wolf Electric, Mobridge, S. D.

In our opinion your best source of information would be the Frozen Food Locker Institute, Inc., 656 Insurance Bldg., Omaha 2, Neb.

This organization is composed of a number of manufacturers who specialize in the making of locker plant equipment. From their experience in furnishing equipment for hundreds of such plants, we are sure that they will be able to give you further information that will help you to construct a plant that will be both economical and efficient.

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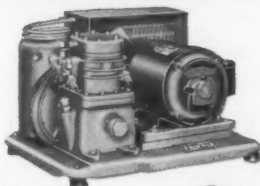
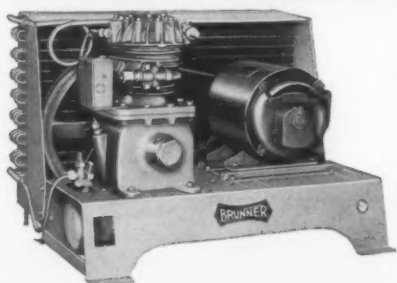
...particularly as they apply to refrigeration condensing units. If the compressor design is such that operating speeds are slower by comparison, less wear results. Less wear means *a longer period of high refrigeration efficiency*...and that is just about everything you have to sell to your customers.

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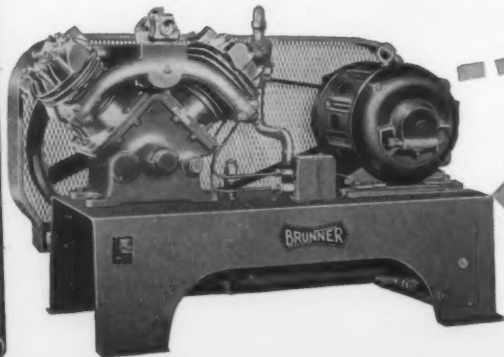
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Seeks Combination Refrigerator-Range

EDITOR:

We are looking for a small table-top-height refrigerator with a gas burner top and an oven.

We have seen a picture of this kind of refrigerator but do not know the make or model number, or who manufactures it.

Any information you can give us as to how we can locate this refrigerator will be appreciated. — Raymond Caro, Sullivan County Refrigerator Sales, Monticello, New York.

A unit such as you describe is produced by Ultra-Cold, Inc., 2615 Exposition Place, Los Angeles 16, Calif. This particular model has a separate broiler in addition to the oven. The same company also makes a table-height refrigerator with gas burner top but no oven. Another unit of this latter type is manufactured by General Air Conditioning Corp., 4542 E. Dunham St., Los Angeles.

Seeks Hardware for Household Boxes

EDITOR:

Will you kindly advise me who are the manufacturers that make door hinges and door latches for household refrigeration.—Wm. Meaden, Uxbridge, Mass.

In reply to your inquiry concerning the manufacturers of door hinges and door latches for household refrigeration, we suggest the following: Arcade Mfg. Co., Freeport, Ill., National Lock Co., Rockford, Ill., Grand Rapids Brass Co., Grand Rapids 1, Mich., Kason Hardware Co., Brooklyn 6, N. Y., Standard-Keil Hardware Co., Brooklyn 33, N. Y.

Finds Handbook Valuable

EDITOR:

Please accept our thanks for and congratulations on publishing such a valuable work as the MARKETING HANDBOOK, which has just arrived by mail. I can appreciate, to some extent, the amount of "blood, sweat and tears" spent in compiling such a reference book. It has already given me some information which I did not know existed, thereby saving time and trouble in tracing it down directly.—James H. Trentwith, Trencos, Ltd., Kelowna, B. C., Canada.

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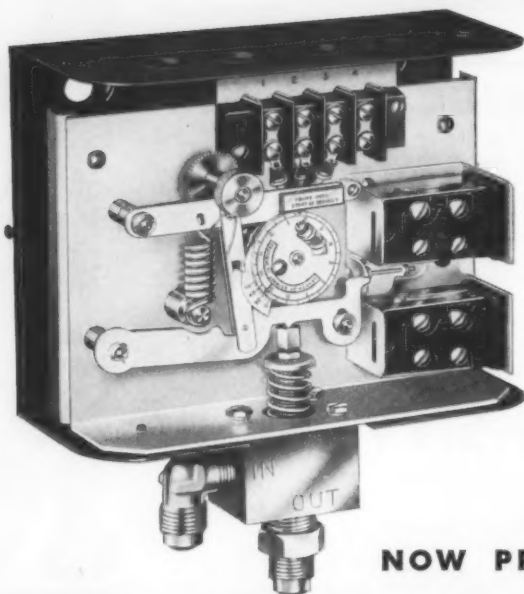
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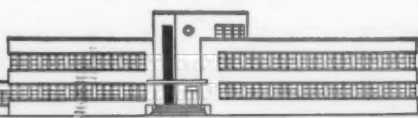
This new Penn control *has been an instant hit*—because it saves time, saves trouble, saves food and protects profits. The demand for automatic defrosting is not limited to any season—and cooler weather, after the peak service load, offers excellent opportunities to increase profits by installing the Series 321. Wherever you find frost on evaporator coils you'll find a good prospect for this control.

It's positive in operation. The heavily spring-loaded valve seats securely and avoids hum or chatter. And this sure operation is not affected by low voltages. Because this is a single-unit control, it's easy to install. It has the rugged Penn construction with 2-pole switches.

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News • Laws • Trends

How Many 10-Year-Olds In Your Town?

HOW many business places in your town have refrigeration equipment that's 10 years old or more? These places are the best prospects for your best selling efforts. Hire a high school student to take a "census" for you in your sales territory; pay him for each prospect he turns up for you. Then go after them with direct mail, telephone calls, and personal sales calls. Get them into your store for a complete demonstration of what today's equipment is like and the savings it can make for them. There's plenty of profitable business out there in your market—but you'll find it only by going out after it. Doing things like this—that your competitor is too lazy to do—will make extra profits for you.

Revised B-9 Code May Be Ready by '50

REVISION of the B-9 Mechanical Refrigeration Safety Code, urgently needed by the industry, is rapidly nearing completion. It is believed that the completed code will be ready for presentation to ASRE, sponsor of the project, for approval at its December meeting in Chicago.

Following a meeting of the task committee in July, the seventh draft of the code has been sent to ASA Sectional Committee members for their comments. Meanwhile arrangements have been made for a conference with the ASME committee on the Unfired Pressure Vessel Code in order to iron out some differences.

Ten Packaging Materials Get Institute's O.K.

PACKAGING materials in which foods can be safely frozen and stored for long periods have been investigated by the General Electric Consumers Institute. Result of the investigations is a list of 10 recommended types of available packaging materials. As well as listing the materials, the Institute's report describes how to use them for wrapping purposes, and the types of foods for which they are suitable.

The list includes aluminum foil, cellophane, Pliofilm, polyethylene, waxed folding cartons, heavily waxed cartons requiring no liner, molded clear plastic containers, aluminum foil containers, glass freezer jars and ordinary jars. In issuing the list, the Institute says that all the approved materials give satisfactory protection against loss of moisture and resultant drying out of the packaged foods. Foods can be safely preserved in these materials for a year, it says.

Permit Now Required For Florida Jobs

INSTALLATION of air conditioning units, heating and ventilating equipment and sheet metal will have to be done under a building permit in the future, city building inspector Carl McPherson of Winter Haven, Fla. announced recently. McPherson pointed out that there had been considerable violations of city building code-ordinance No. 650 in regard to the installation of such units; citizens who add such equipment in the future will have to have a building permit before it can be installed, he said. Sheet metal work, unless covered by a general permit, must have a building permit, he declared.

Calls Cooling "Best Way to Build Business"

AIR CONDITIONING is "one of the best methods of increasing volume that we have," C. W. Horan, owner of the Colonial Cafeteria in Fort Worth, Tex., told fellow restaurant operators at a recent "short course" sponsored by the National Restaurant Association recently in Chicago.

Horan reported that "during May and June of this year our food sales were \$9,966 greater than in 1948, an additional increase of \$163 per day, making our food sales run \$368 greater than before air conditioning was installed. This is my experience during a time when almost every other restaurant in our vicinity is reporting a loss of volume."

"It is time that moderate or small-size restaurant operators recognize the fact that if they give comfort to their customers, as well as good food and service, they can increase their business as well as their net returns. This involves first spending money for air conditioning," Horan declared.

The Five-Foot Kitchenette Makes Its Bow

THE "five-foot shelf" has long been famed in the literary world—but now comes a "five-foot" kitchenette assembly that should hold interest for domestic refrigeration and appliance dealers. Developed by the Moss Atlas Corp. of Brooklyn, N. Y., and known as the "Efficiency '60' Kitchenette", the packaged kitchen assembly is 60" long, 24 $\frac{3}{8}$ " deep, and 84" high, and incorporates a four-burner gas or electric range with oven and broiler, a sink top with under-sink cabinets, a Paley "Lo-Boy" 3 $\frac{1}{2}$ or 5 cu. ft. refrigerator, and two wall cabinets (30" x 30" x 13") for storage of china, glassware and staples.

Richmond Makes Cooling Users Get Water Permits

EFFECTIVE Aug. 15, plumbers installing air conditioning or refrigeration equipment that uses water must get permits from the Department of Public Utilities of Richmond, Va., before connecting the equipment to the city water system, H. E. Lordley, assistant director of public utilities, has announced.

"The step is being taken because the department has received increasing complaints from customers where air conditioning has been installed on inadequate water services," Lordley explained. "An average air conditioning unit may use 12 to 15 gpm, which the existing service connection may not be able to supply."



Although this modern funeral home chapel is completely air conditioned, there is little evidence of the equipment doing the job. A "built-in" duct carries the conditioned air to three ceiling outlets where it is diffused gently throughout the chapel. The conditioner is in the garage at the rear.

How air conditioning aids **THE FUNERAL HOME**



Hung from the ceiling of the garage of the funeral home, this 5-ton suspended type Frigidaire air conditioning unit supplies cool, filtered, dehumidified air to the chapel. The lower duct draws fresh air from the outside and mixes it with room air, ventilating the chapel. The upper duct carries the cool air to the conditioned area.

J. W. Gregg (right), Frigidaire dealer who planned the air conditioning system, explains operation of the fan switch control of a remote-type floor conditioner which serves the family reception room.

AIR conditioning equipment is playing an increasingly important role in the modernization of funeral homes across the country.

A good example of how the newer types of compactly designed conditioning units are being applied successfully in this field can be found in the Nale Funeral Home in Fairfield, Ill., where two Frigidaire air conditioning systems serve a modern chapel, family reception and private rooms, and the office.

The chapel, which has a seating capacity of 200, is conditioned by a Frigidaire suspended type unit of 5-ton refrigerating capacity. J. W. Gregg, Frigidaire dealer who planned the installation for Funeral Director E. A. Nale, hung the 5-ton air conditioner from the ceiling in a garage at the rear of the chapel. With all ducts,

plumbing and electrical connections in place, the still is sufficient clearance for automobiles below.

A large duct, insulated to reduce heat losses, supplies coal, filtered, dehumidified air to three air diffusion outlets in the ceiling of the chapel. A lower duct draws fresh air from the outside and mixes it with room air.

Remote Units Used

Two private family reception rooms and the office of the funeral home are air conditioned by three Frigidaire remote floor units. These floor-type air conditioners are operated by a multiple hookup arrangement stemming from a single 3-hp Frigidaire water-cooled reciprocating compressor. Because these floor units are only 11½ inches deep, 25 inches high and 46 inches long, it was possible to install them in out-of-the-way locations.

A forced draft cooling tower of 10-ton capacity, installed on the roof of the garage directly over the 5-ton conditioner serving the chapel, supplies water to the two compressors operating the air conditioning systems.

Like most funeral homes, the chapel and private rooms of the Nale home are used intermittently, depending upon demand. By "zoning" the conditioned areas, operating costs of the air conditioning equipment can be kept at a minimum. The package conditioners can be operated or shut down in the chapel, reception room or office as required.

Owner Cites Benefits

Air conditioning in the Nale home is proving its worth in many ways, according to the owner. Cool air offsets the body heat generated by large groups of visitors attending services. Flowers remain in better condition over longer periods. Because doors and windows can remain closed during services, much of the outside noise, dust, and other nuisances are eliminated. Because dust and grime are filtered out of the air, cleaning and redecorating is reduced substantially.

"Above all," funeral director Nale points out, "because it is a comfort-making factor, air conditioning seems to reduce the nervous tension among the visitors."

Drink Up . . . Pep Up!

A SURE way of increasing workers efficiency and reducing fatigue has been uncovered by doctors at Harvard University.

No, these academic medics haven't discovered any miracle drug. But they have developed some definite data on the relationship of water to human exhaustion—and in the process have turned up some mighty powerful merchandising arguments for water cooler salesmen, particularly those who handle any industrial accounts.

Nature has made thirst more painful than hunger, these doctors point out, and nothing quenches thirst like water. However, experiments at the Harvard Fatigue Laboratory showed conclusively that mere thirst quenching is not enough for peak efficiency.

Greatest efficiency is obtained when the water lost in sweat and through other means is replaced, hour by hour, with an equivalent amount of pure drinking water. Yet it was found that under ordinary circumstances, working men do not voluntarily drink as much water as they lose.

An employe can be encouraged to drink more than his thirst-quenching minimum only if the supply of drinking water is convenient, palatable, and refreshingly cool. Modern, attractive, mechanically refrigerated water coolers are the answer.

In the Harvard experiment, athletes covered a 16-mile course under three different conditions.

First, without any water intake. Body temperatures rose steadily and at the end of the course the subject was very tired and inefficient.



Second, with sufficient water intake to satisfy thirst but insufficient to replace loss. After remaining constantly low for 13 miles, body temperature rose and the subject's efficiency was impaired.



Third, with intake of water equal to sweat loss. Body temperature remained very low for this type of work and at the end of the course subject said he could easily go on all day.



So, Mr. Water Cooler Salesman, you'll be doing your prospects—and yourself—a favor if you point out to them this scientifically sound moral: if you're looking for a way to boost production, cut down errors, and generally improve the health and moral of your employes, you would do well to survey your drinking water facilities!

Part 1

A PRACTICAL STUDY OF THE CAPILLARY TUBE

EDITOR'S NOTE: This is the second of two articles by Mr. Ammons on the practical installation and operating problems of the capillary tube. The first article in the series appeared last month.

Information presented in these articles has been developed by Mr. Ammons as a result of his own personal experiences with capillary tube systems, which he calls "the most misunderstood refrigeration component" in use today.

The author has had 15 years' experience in the refrigeration, electrical and radio business, including rebuilding sealed units, service for a mail-order house, work with ammonia and locker plant equipment, and ownership of a small ice cream cabinet manufacturing business. At present he is service manager for the Swift & Co. ice cream plant in Amarillo, Tex., covering the Texas panhandle, New Mexico, and part of Oklahoma.

By Joe Ammons

THE CHIEF advantage of the capillary system over others is its extreme simplicity. There is nothing to wear out, no parts to change. Once it is properly installed, it is good forever.

Added to this is the fact that capillary systems work on lower head pressures than others; also, the motors can start on lower torque, due to the fact that the compressors are practically unloaded at the beginning of the cycle.

All these things help make a trouble-free unit which is inexpensive in first cost, operation, and upkeep.

Probably the chief disadvantage in these units is the fact that they cannot be pumped down. This, of course, is due to the fact that there is seldom enough room in the high side to accommodate all the refrigerant in the system.

This is particularly bad when, for one reason or another, the capillary becomes stopped up. Everything possible should be done to keep this from happening.

Of course, it is obvious that a good

drier and strainer must be installed ahead of the tube. But this will not necessarily keep oil from congealing in the tube, or sludge, or wax from separating in the end of the tube.

In my opinion, the most important rule of all in installing a capillary is that the tube must be kept warm. This means that the tube must not come into contact with any part of the system which is likely to become cold. It should not touch the suction line, and it must not enter directly into the evaporator. If possible, the entire tube should be installed outside the cabinet.

One good method of accomplishing this is shown in the accompanying drawing (Figure 2). The drier-strainer is installed directly on the outlet of the condenser. A 3/16- or 1/4-inch liquid line is soldered to the suction line up to the point where that line runs into the cabinet. The capillary is then welded into this liquid line, and is coiled loosely at the back of the cabinet.

To avoid running the capillary directly into the evaporator, I have adopted the practice of using a gradual expansion. If I am using a

.031 tube, I run it into a short length of .050 tube which in turn is welded into a length of 1/8 O.D. tubing which runs into the evaporator. This effectively stops most of the trouble caused by the low temperature and low pressure at the outlet of the tube.

It is imperative that a sensitive overload protector or high pressure cut-out be installed on every capillary system.

Capillary and Float Combination

The capillary is frequently used in series with a float valve to keep the liquid from expanding before it reaches the evaporator.

These installations fall into three general classes. The first uses a short length of capillary just ahead of the evaporator, and the second uses a length of capillary which runs from the float to the evaporator, but which is not long enough to be classed as a true metering system since it is actually a high side float system wherein the capillary is only incidental. The float opens and closes in the conventional manner, and should be serviced as a float valve system.

The third is a calibrated capillary system which uses a float only as an incidental. In a system of this type, the float opens shortly after the beginning of the cycle and remains open until the unit stops or reaches the second frost-back point.

During the "on" cycle the unit operates exactly like a conventional capillary system. During the "off" cycle most of the liquid in the float runs into the evaporator, after which the float closes and keeps the pressures from equalizing.

The advantages of this type system are that it allows room for pump-

down when needed, and that it allows no uncondensed gas to enter the evaporator. The disadvantage is that it is subject to the mechanical troubles of the float valve and causes the motor to start on a heavier load than the conventional capillary.

These systems are charged and serviced like an ordinary capillary system.

Works with All Systems

It should be borne in mind that most of the rules applying to capillary systems are also applicable to high side float valve systems. Both of these systems are better adapted for use with sealed unit systems than with open types, since it is harder to maintain an exact critical charge over a long period of time in the open systems.

However, the capillary can be, and is, used with all types of systems. It can successfully replace any other type of expansion device, and in some instances is superior to the original part.

One of the best evaporators for use with a capillary is a continuous tube type. Another is the flooded type, where the entrance is at the bottom or back of the evaporator and where the liquid rises above the inlet.

The low side float type evaporator should not be used, or if it must be used with a capillary, as would be the case with an orphan with a worn irreplaceable float, then the float assembly should be removed and the original inlet and suction outlet should be plugged. The inlet from the capillary should then be soldered into a manifold as shown in the accompanying drawing (Figure 3).

The refrigerant should have a definite path through the evaporator from the inlet to the outlet, this type being superior to the evaporator where the refrigerant simply rises from the bot-

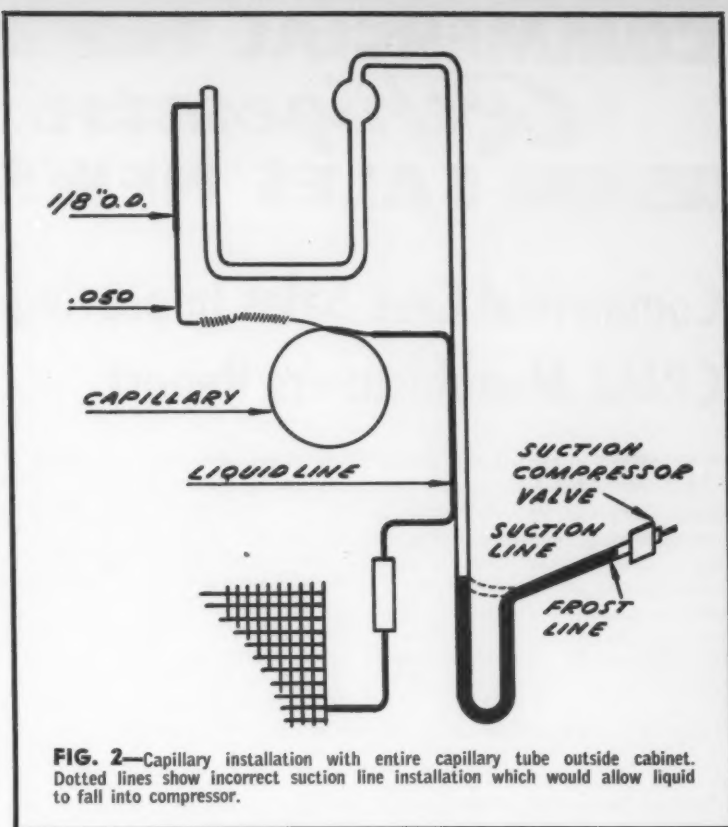


FIG. 2—Capillary installation with entire capillary tube outside cabinet. Dotted lines show incorrect suction line installation which would allow liquid to fall into compressor.

tom to top like water in a bucket.

It should be remembered that, if the system is correctly calibrated and charged, it will frost out of the cabinet only at the beginning of the cycle. The reason for bringing the frost line almost up to the compressor at this point is to return any oil which has accumulated in the evaporator and also to have a slight excess of refrigerant so that a small amount may leak out without affecting the unit. However, if the suction line is extra long or large, it may remain frosted throughout the "on" cycle. In this case, the refrigerant should

be purged off until the frost line backs up inside the cabinet.

Where the unit is located below the cabinet, it is usually a good practice to install a trap in the suction line to contain the excess refrigerant, otherwise it would fall directly into the compressor, as illustrated in Figure 2. Sometimes an accumulator is installed instead of the trap. However, when this is the case we must be certain that it is so designed that it will not become an oil trap.

The suction line in the capillary system should be insulated all the way to the compressor.

Air in a capillary system can be just as dangerous as moisture, and harder to eliminate, since it will follow the refrigerant throughout the system and cannot be purged off without completely evacuating the system. If there is any reason to believe that there is air in one of these systems, the refrigerant should be discharged and a new charge substituted.

The capillary works very well as a replacement for automatic or thermostatic expansion valves as well as high side floats. It is ideal for use on low

Continued on page 39

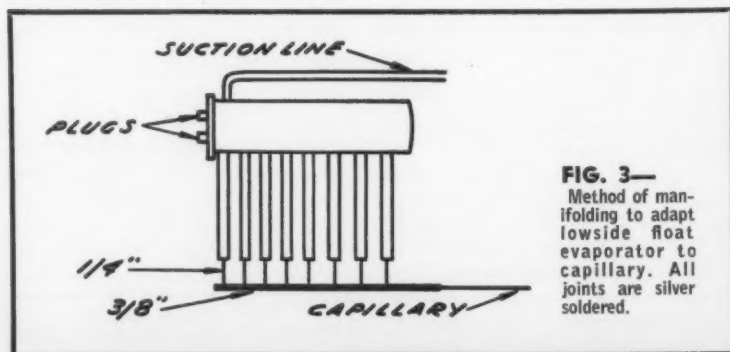


FIG. 3—Method of manifolding to adapt lowside float evaporator to capillary. All joints are silver soldered.

COMMERCIAL *Refrigerator* SALES NEWS

Commercial Case Sales Improving, CRMA Manufacturers Report

MEMBERS of Commercial Refrigerator Manufacturers Association, attending the organization's annual meeting in Chicago Aug. 4 and 5, carefully examined the business situation and decided there is nothing to worry about that hard work will not cure. It was revealed that substantially increased demand for industry products in the last four months had brought total volume to within 12% of the 1948 record figure, after a shrinkage of nearly 20% for the first quarter of 1949. Several manufacturers reported sales in excess of last year.

Profits are diminishing, it was brought out in the discussions, due to the lessened volume and continued high materials and production costs. There has been only a nominal change in the level of prices paid for raw materials used by the industry, it was stated.

No Price Changes Seen

However, barring a serious economic upset later this year, the profit position of the industry is expected to be satisfactory. With constantly narrowing margins, no change in the industry's price levels is contemplated, it was indicated.

A series of panel discussions on Labor Relations, the Sales Outlook, Distribution Problems, and Management, featured the program. In discussing the sales outlook, L. O. Bower, vice-president of Sherer-Gillett Co., Marshall, Mich., declared, "The principal objective of manufacturers' sales departments today is to encourage dealers and their salesmen to contact more potential customers than ever before, and ask them to buy."

Other speakers on the panel agreed that more effective salesmanship was the primary goal of this and all other

businesses, plus more confidence in overcoming buyer resistance caused by "economic double-talk" and fear psychology.

Other executives leading panel discussions were Robert L. Tyler, Tyler Fixture Corp.; William Fogel, Fogel Refrigerator Co.; E. L. Stultz, Viking Refrigerators, Inc.; John D. Harris, The Warren Co.; Raymond H. Starr, Koch Refrigerators, Inc.; A. L. Johnson, Puffer-Hubbard Mfg. Co.; Herman C. Ahrens, The C. Schmidt Co.; William B. McMillan, Hussmann Refrigerator Co., and R. J. Rehwinkel, McCray Refrigerator Co.

John J. Leonard, of Seeger Refrigerator Co., St. Paul, Minn., was re-elected president of the association for a second term. A. J. Maas, of C. L. Percival Co., Boone, Iowa, was elected vice-president, and Edward N. Northey, of Herrick Refrigerator Co., Waterloo, Iowa, treasurer. Robert L. Tyler of Tyler Fixture Corp., Niles, Mich., and William J. Stelpflug, of Hussmann Refrigerator Co., St. Louis, were elected to posts on the executive committee.

100 ITEMS STORED IN SEVEN-SECTION CASE

More than 100 delicatessen items are stored at proper temperatures in the huge seven-section reach-in refrigerator built by Vico Refrigerator & Mfg. Co., Los Angeles, for Hiram's Market at South Gate, Calif.

The refrigerator, built of stainless steel and porcelain enamel panels, is more than 60 feet long. Each section is kept at a different temperature by individual condensing units. Three display shelves are reached by means of 30 glass doors.

The unusual construction of the re-

frigerator was made necessary by the fact that many delicatessen items are highly perishable, and so are stored "under glass" for maximum preservation.

Because it makes available the storage of an unusually wide variety of products, the special delicatessen refrigerator has built sales consistently ever since its installation, operators of the market say. It also has made possible the addition of a number of extra delicatessen lines.

The market also operates a self-service meat department, using nine Weber display units.

RUSS MAINTAIN TO GIVE MODERNIZATION COURSE

President Daniel L. Marsh of Boston University has announced that



Russ Maintain, president of Maintain Store Engineering Service, Boston, and president of the Commercial Refrigerator Sales Association, will again conduct the new course in Store Modernization.

The course began Monday, Sept. 19, at the Boston University Evening College of Commerce. Maintain is recognized as one of America's leading store planning consultants.

In today's highly competitive retail market, Boston U. recognizes the need for providing the retailers of this area with the finest leadership in modern store planning. With the advent of numerous new merchandising techniques, today's store must be outstanding to get business and insure its security.

This course is open to retailers or those who contemplate entering the retail field, and is intended to help them in making their store an effective modern selling machine. It will acquaint them with fundamentals in planning their complete store in order to build more sales, draw in more new customers and cut costs and overhead. Actual modernization programs will be described in detail. The course will cover food stores mainly, but also drug, hardware, variety stores and specialty shops.

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

Ice Makers Offer Prime Sales Opportunities

THE commercial refrigeration dealer casting about for new profit possibilities to take up the customary seasonal slack this fall and winter might do well to give a long, close look to the field of automatic ice cube makers.

Recent activity among the manufacturers of this type of equipment seems to indicate that these units may be among the top "promotional items" for commercial dealers during the coming season. Not only have established makers of ice cubers announced new improvements and new models, but also some old and prominent names in the commercial refrigeration field have announced their initial venture in the production of these units.

Certainly, with the ice cube maker's wide range of application in the hotel, restaurant, bar, club, hospital, and institutional fields—and with the greater selection of reliable models now available—commercial dealers everywhere should find this particular item of packaged equipment a very real (and very welcome!) money maker.

Brief descriptions of some of the models announced most recently are given below.

CARRIER CUBER REQUIRES LITTLE FLOOR SPACE

Production of a completely automatic ice cube maker in a new low cost field has been announced by Carrier Corp.

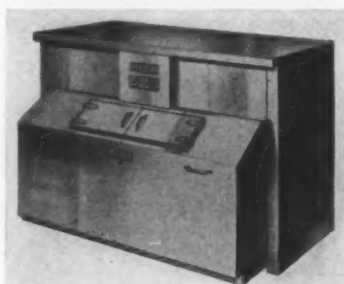
Using a new principle by which cubes are individually frozen, eliminating the need for any complicated mechanical or floatation device to release the cubes, the new machine is simple in operation, Carrier officials stated.

Using a $\frac{3}{4}$ hp hermetic compressor, the machine is capable of delivering
Continued on page 41



ICE-FLO UNIT FEATURES ROLL-AWAY CUBE STORAGE

The Ice-Flo Corp. of Lonsdale, R. I., is now in production on a new "X" line of fully automatic ice cube makers. This line is in addition to its

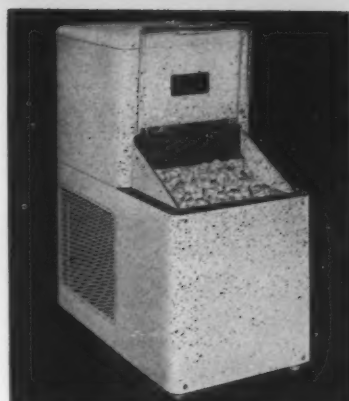


already established "DC" and "SC" de luxe models.

One of the most popular models of the new line is the X-10. It features front delivery into an insulated, stainless steel, storage cabinet which holds approximately 24 hours' production and automatically shuts off when full. The cabinet is detachable and can be rolled away to any convenient dispensing point while another takes its place.

The X-10 produces 7,360 solid, clear, sparkling, standard size cubes daily, or approximately 400 lbs. Other X-models will make from 5,440 to 14,720 cubes every 24 hours.

Continued on page 40



CAPEHART CUBER MADE BY SERVEL, SOLD BY AJAX

A new ice cube machine that automatically produces crystal clear ice in a simple manner without recirculating water has been announced by Servel, Inc., Evansville, Ind.

Called the Ajax Electric Iceman, the machine is manufactured by Servel, but Ajax Corp. of America, Chicago, is the exclusive international distributor. Basic patents for the revolutionary machine were purchased from Senator Capehart of Indiana.

Using fresh water for each batch of cubes frozen, the machine has been designed to meet all state and local

Continued on page 41

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McQUAY SUBSIDIARY MARKETS ICE MAKER

A new completely automatic ice maker that supplies sanitary sized ice for hotels, restaurants, bars, clubs, hospitals and soda fountains is being introduced by American Automatic Ice Machine Co. Faribault, Minn.

The firm is a newly organized sub-
Continued on page 41



ABOUT People

The board of directors of Servel, Inc., has elevated **Louis Ruthenburg** to the newly-created post of chairman of the board and chief executive officer in recognition of his important contributions to the com-



Ruthenburg



Jones

pany's development since he became president in 1934. Upon Mr. Ruthenburg's nomination, the Servel board named as president, general manager and director **W. Paul Jones**, who has been in the refrigeration industry 28 years and who at one time had been advertising and sales promotion manager of Servel. Jones resigned as vice president and director of Philco Corp., in charge of the refrigeration division, to accept the post. He was elected president of Philco Refrigeration Co. in 1938, assuming his recently resigned position, when Philco Corp. was formed in 1940. Earlier he had been executive vice president of Fairbanks-Morse Home Appliances, and before that president and general manager of Refrigeration Products Co., Evansville, Ind. From 1929 to 1933 he was advertising and sales promotion manager of Servel, Inc., after which, for two years, he was assistant general manager of the commercial division of the company.

Dr. Amos Turk, formerly of the chemistry department, City College of New York, has been appointed director of research and development of **W. B. Connor Engineering Corp.**, manufacturers of activated carbon air purification equipment.

Appointment of **W. E. Konkright** to the position of sales promotion and advertising manager of General Controls Co., Glendale, Calif., has been announced by **J. F. Ray**, vice-president in charge of sales.

Konkright, a two-year resident of California, has had long experience in the industrial advertising and promotional fields. Former connections include International Harvester Co. and Harnischfeger Corp.

Fred H. Biewener has been named manager of Norge appliance



sales for Refrigeration Sales Corp., Cleveland, recently appointed Norge distributor for north-eastern Ohio. The announcement was made by **Warren W. Farr**, president of

the organization. Biewener, who has been in the appliance business practically all his life since being graduated from the University of Kansas, comes to Refrigeration Sales from Pittsburgh where he was manager of the Bendix Home Appliances, Inc., branch in that city. Prior to joining Bendix, Biewener was manager of radio sales for Ludwig Hommel & Co., Pittsburgh Norge distributor, for whom he worked as a salesman prior to the war.

Appointment of **Thomas A. Kennally** as president of the refrigeration division of Philco has been announced today by **William Balderston**, president of Philco Corp. He succeeds **W. P. Jones**, former vice president of the division, who has resigned to accept the presidency of Servel, Inc. Kennally is a Philco veteran with twenty-five years of ex-

perience in the development, manufacture and distribution of Philco products. He had served as vice president and assistant to the president since 1948.

McCray Refrigerator Co., Kendallville, Ind., announces the appointment of **R. E. Abbott**



to the position of sales manager in charge of national accounts. In this capacity he will be responsible for sales in the super market and chain store field and for the wholesale business of the company. The appointment became effective July 1.

Abbott is not a new man in the McCray organization. His 14 years of experience as head of their service department and as assistant sales manager qualify him unusually well for his new and important functions.

Wagner Electric Corp., of St. Louis, announces the appointment of **R. E. Bryant** as manager of the automotive and electrical branch at Buffalo, N. Y.



Bryant joined the Wagner organization as a student engineer shortly after graduation from the school of engineering at the University of Missouri. A lengthy period of intense training was interrupted only during the war years when he served with the Armed Forces. After this training as a student engineer and in various other capacities at Wagner's main plant in St. Louis, Bryant was transferred to the Pittsburgh branch office as a salesman where he remained until his current appointment as manager of the Buffalo branch.

Irving M. Fisher has been named president of **Weathermatic Corp.**, Long Island City, N. Y. Weathermatic Corp., handling Carrier equipment, is engaged in the sale, engineer-

Continued on page 45

It's a Giveaway!



Handing out \$150 worth of frozen foods free each month has won a lot of commercial refrigeration customers for this enterprising dealer.

THERE'S nothing at all deceptive about the way in which General Appliance Co. of Denver, Colo. promotes the sale of home freezers. In fact, this firm's freezer promotion plan is a giveaway!

Capitalizing to the utmost on the firm's heavily trafficked location in the center of a fashionable shopping and theater district on East Colfax, Bill O'Toole, who heads this aggressive merchandising organization, has turned many of his drop-in prospects into home freezer customers through the simple expedient of handing them a free sample of frozen food from one of the two big freezers on display near the store's entrance.

And not only home freezers has this policy sold, for O'Toole reports that his frozen food gifts frequently have led directly to the sale of many of the other types of commercial refrigeration equipment which the company merchandises.

Everybody who visits the company's showroom walks away with a frozen fruit pie, doughnuts, cake, pastries, or some other frozen delicacy under his arm. Two big freezers

near the door are kept well stocked with such tasty items, which the company buys in wholesale lots from some frozen bakery products organizations to which it has sold much specialty refrigeration equipment.

O'Toole spends about \$150 per month for this novel goodwill-building idea. Does it pay off? "We think so," O'Toole smiles. "We can trace the sale of around 700 display refrigerators of various kinds to this policy."

O'Toole believes, for instance, that presenting a small town grocer, for example, with a frozen pie gives the latter a chance to really see for himself what adequate refrigeration can do to better his food service to his customers. The facts of the case have borne him out. There have been scores of instances in which a single visit from an out of town merchant has resulted in telephone orders for two or three pieces of commercial refrigeration equipment.

Furthermore, O'Toole believes in doing what he can to boost the business of each customer to whom he sells commercial refrigeration equip-

ment of one kind or another. For instance, when he recently built a \$2500 walk-in type sharp freezer for a Denver baker who was entering into the production of frozen chicken pies, he sent a personal postcard around to every frozen food retailer who had ever bought a piece of refrigeration equipment from him. On this card he suggested that the chicken pie was an ideal frozen goods item, and why didn't the retailer try a sample order right away? The result was a huge volume of orders which put the baker into profitable distribution within a few weeks and also provided a profit making specialty for O'Toole's display case customers.

Through stunts like this, O'Toole has definitely proven that anything which helps his customers in the long run will help him also. "As a result of this cooperative gesture," he points out, "all parties concerned now are consistent boosters for us, and recommend our refrigeration products and services at every opportunity."

This willingness to help his customers in every possible way, added

Continued on page 39



Atlantic City's huge Auditorium will house the "world's largest display of refrigeration and air conditioning equipment" during the 6th All-Industry Show Nov. 14-18. Here the hall is shown as it looked during a recent exposition of a similar nature.

"Greatest Show Ever" Beckons Industry to Atlantic City

THE world's largest display of refrigeration and air conditioning units, equipment and parts will be on exhibit at the 6th All-Industry Refrigeration and Air Conditioning Exposition, to be held in the Atlantic City Auditorium, Atlantic City, N. J., November 14 through 18.

Plans for this year's show, which is sponsored, as in the past, by the Refrigeration Equipment Manufacturers Association, promise to make it the biggest and best that the refrigeration and air conditioning industry has ever witnessed.

Every type of equipment used in this broad major industry will be displayed by more than 200 of the industry's leading manufacturers, with many new products being displayed for the first time during Show week. A complete list of "What's New" as far as Show products are concerned will be published in next month's issue of **COMMERCIAL REFRIGERATION & AIR CONDITIONING** magazine.

The management of the Show has

issued a general invitation to all manufacturers, wholesalers, retailers, service engineers, contractors, refrigeration engineers, architects, consulting engineers and other persons identified with the industry to attend the exposition.

"It will enable dealers to find new lines and justify old ones," says H. F. Spoehrer, chairman of REMA's Show Committee. "It will enable contractors to compare products in order to

know what best to recommend and install. It will permit service engineers to compare makes and prices and know what to select in making repairs. It will enable architects, consulting engineers and refrigeration engineers to see what is new in refrigeration and air conditioning equipment . . . judge what products are best . . . to see them . . . compare them and get the facts straight from the manufacturers."

Another feature which has been added to the All-Industry Show this year is a big name, all-star theatrical revue in the Grand Ballroom of the Atlantic City Auditorium. The show will include a Hollywood star or name star of the radio airplanes augmented by New York theatrical talent.

The revue is being scheduled for Monday night, Nov. 14, with accommodations for 5,000 spectators and will be an added attraction to exhibitors and spectators. Admission will be free to all wearing official registration badges.

Other REMA entertainment fea-

WHERE TO STAY

Headquarter hotels for the various industry associations will be as follows:

Exhibitors

REMA
REWA
RACCA
RSES

NCRSA
NEMA
ACRMA

Traymore Hotel
Traymore Hotel
Claridge Hotel
Ambassador Hotel
Ambassador &
Ritz-Carlton Hotels
Ambassador Hotel
Haddon Hall
Chalfonte Hotel

tures during Show week include a cocktail party on Tuesday evening, Nov. 15 for the officers, directors and past presidents of cooperating trade associations; a dance in The Traymore on Wednesday evening, Nov. 16; and a "Refrigeration Industry Night" at Hackneys on Thursday evening, Nov. 17.

The Atlantic City Auditorium, site of the Show, is said to provide unmatched facilities for the staging of an event of this kind. This huge auditorium, largest building of its type in the world, offers complete freedom from pillars and posts.

All of the active associations in the refrigeration and air conditioning industry, it is expected, will maintain booths at the Show for the convenience of their members. Another "extra" will be an "international headquarters", part of the REMA exhibit, where Show visitors from foreign countries can be registered and made comfortable while arrangements are being made to help them see the products and people in which they are interested.

Meetings of the various industry associations also have been scheduled for the Show period, to give their membership a "double-barreled" reason for coming to Atlantic City.

Refrigeration Service Engineers Society is holding its 12th annual convention there from Nov. 13 to 16, with a banquet scheduled for the evening of Nov. 15. Convention sessions have been arranged to allow members full time to attend Show exhibits.

Refrigeration and Air Conditioning Contractors Association has scheduled its 4th annual meeting for Nov. 13 and 14, with business sessions



Here are the members of the 6th All-Industry Show Committee—the men who are working to make this year's Show the best yet—as they met in Atlantic City to iron out final details of the exposition. Standing, left to right, are: Howard Roberts, Whiting Corp., co-chairman, entertainment committee; J. F. Dailey, Typhoon Air Conditioning Co., Inc., show committee; R. L. Sears, Lunch Corp., chairman, entertainment committee. Seated, left to right, are: George E. Mills, REMA, show director; K. B. Thorndike, Detroit Lubricator Co., president of REMA; H. F. Spoehrer, Sporian Valve Co., chairman, show committee; W. Vernon Brumbaugh, executive secretary of REMA.

winding up before the Show is formally opened.

National Commercial Refrigerator Sales Association has scheduled a meeting and banquet for Nov. 15, and National Electrical Manufacturers Association also has a banquet scheduled for Nov. 15.

Refrigeration Equipment Wholesalers Association will hold a directors' meeting Nov. 13 and its annual membership meeting Nov. 14. Air Conditioning and Refrigerating Machinery Association also will have a meeting of directors.

While the All-Industry Show and its attendant activities will occupy center stage for industry visitors, there is much to see and do in Atlantic City in November. The Auditorium is located right on the famous Boardwalk, within easy access from all hotels.

The Boardwalk, five miles long, is lined with smart shops, fine restaurants, exhibit rooms and theaters, and rolling chairs are available for those who wish to view it in leisurely fashion. Horseback riding and golf, as well as deep sea fishing, are popular November pastimes, and many visitors enjoy just basking in the sun along the sandy beach.

The Show committee reports that plenty of hotel rooms are still available for those who have delayed until now in making definite plans to attend the event. The big rush of summer business is over for the hotels, so ample accommodations are to be had at reasonable cost. Those who have not made their reservations should do so by writing to the All-Industry Exposition Housing Committee, 16 Central Pier, Atlantic City, N. J.

Offering as it does an opportunity to obtain latest information on new equipment and make direct contact



Most renowned feature of Atlantic City is "The Boardwalk" which borders the beach and runs right past the front of the Auditorium, part of which can be seen at the right.

with every segment of the industry, the Show committee feels that thousands of refrigeration men will recognize in the Show an opportunity to combine business with a brief vacation period.

The latest available list of exhibitors at the Show follows:

A

Ace Cabinet Corp.; Acme Industries, Inc.; Acme National Refrigeration Co., Inc.; "Air Conditioning & Refrigeration News"; Airserco Mfg. Co., Inc.; Ajax Corp. of America; Harry Alter Co.; Alco Valve Co.; Allin Mfg. Co.; Aluminum Co. of America; American Coils Co.; American Refrigeration Corp.; Aminco Refrigeration Products Co.; Ansul Chemical Co.; Arcade Mfg. Div., Rockwell Mfg. Co.; Richard M. Armstrong Co.; Automatic Products Co.; American Brass Co.

B

Baker Refrigeration Corp.; Bally Case & Cooler Co.; Baltimore Aircoil Co., Inc.; Betz Corp.; R. H. Bishop Co.; Black, Sivals & Bryson, Inc.; Bonney Forge & Tool Works; Brewer-Titchener Corp.; Crandal-Stone Div.; Brunner Mfg. Co.; Bundy Tubing Co.; Bush Mfg. Co.; Butcher Boy Cold Storage Door Co.; Bell & Gossett Co.; Binks Mfg. Co.

C

Carrier Corp.; Century Electric Co.; Chicago Seal Co.; "Commercial Refrigeration & Air Conditioning" Magazine; Coolstream Corp.; Copeland Refrigeration Corp.; Crosley Div., Avco Mfg. Corp.; Curtis Refrigerating Machine Div.; Cutler-Hammer, Inc.; Coldin Cabinet Co., Inc.; Cornelius Co.

D

Davison Chemical Corp.; Day & Night Mfg. Co.; Dayton Rubber Co.; Dean Products, Inc.; Delavan Mfg. Co.; Detroit Air Conditioning Institute; Detroit Lubricator Co.; Dole Refrigerating Co.; E. I. du Pont de Nemours & Co., Inc.

E

Ebco Mfg. Co.; Electric Auto-Lite Co.; Esco Cabinet Co.; Eston Chemicals, Inc.; Evans Mfg. Corp.

F

Fresh'nd-Aire Co.; Div. Cory Corp.; Fedders-Quigan Corp.; Federal Refrigerator Mfg. Co.; Fine Products Co., Inc.; Frigidaire Div., General Motors Corp.; Frigidraft Inc.; Fogel Refrigerator Co.; Ed Friedrich Sales Corp.; Frick Co., Inc.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

G

Gates Rubber Co.; Gem Refrigerator Co., Inc.; General Controls Co.; General Electric Co., Apparatus Dept.; General Electric Co.; L. H. Gilmer Co.; Governair Corp.; L. F. Grammes & Sons, Inc.; Grand Rapids Brass Co.

H

"Heating and Ventilating"; Halstead & Mitchell; Haverly Electric Co.; W. A. Hammond Drierite Co.; Hartford Machine Screw Co.; Shomatic Div.; Heat-X-Changer Co., Inc.; Hedeman Products, Inc.; Henry Valve Co.; Highside Chemical Co.; Holsclaw Bros., Inc.; Hubbell Corp.; Hupp Corp.; Hussmann Refrigeration, Inc.

I

Ideal Cooler Corp.; Imperial Brass Mfg. Co.; Industrial Devices, Inc.

J

Jewett Refrigerator Co., Inc.; Jamison Cold Storage Door Co.; Jarrow Products; Jordan Refrigerator Co., Inc.

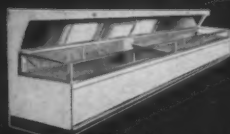
K

Kason Hardware Corp.; Kennard Corp.; Kerotest Mfg. Co.; Kinetic Chemicals, Inc.; Koch Refrigerators; *Continued on page 42*

SALES POSSIBILITIES EVERYWHERE

The complete Tyler line of welded-steel Commercial Refrigerators and Display Cases meets all requirements of food stores, markets, super-markets, hotels, restaurants, tav-

erns, bakeries, florists, cafeterias, colleges, diners, drugstores, delicatessens, hospitals, institutions—anywhere perishables are stored or sold. Tyler Fixture Corp., Niles, Michigan.



Tyler Open Meat and Dairy Cases



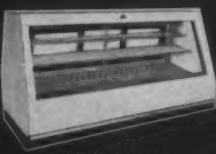
Tyler Open Vegetable Cases



Tyler Meat Display Case



Tyler Open Three Shelf Meat and Dairy Cases



Tyler Dairy Case



Dry Cold Beverage Cooler

TYPICAL TYLER CASES



Airline Shelving



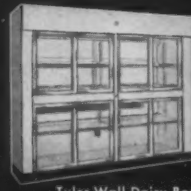
Tyler Frozen Foods Display Case



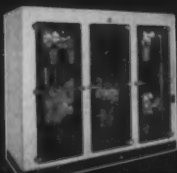
Tyler Reach-In Box



Tyler Walk-In Cooler



Tyler Wall Dairy Box



Tyler Florist's Refrigerator

TYLER
FOR FOOD REFRIGERATION

REFRIGERATION INDUSTRY *News*

FOOD CHAIN GROUP SHOWS FIXTURES AT ANNUAL MEETING

For the first time in its history the National Association of Food Chains will include a comprehensive exhibit of new equipment, including refrigeration cases, fixtures and supplies as a part of its sixteenth annual meeting to be held October 12-15 in Washington, D.C., it has been announced by T. J. Conway, chairman of the annual meeting committee.

All available display space has been reserved by about 50 manufacturing and service concerns. The exhibits will be on the mezzanine floor of the Statler Hotel, adjacent to meeting rooms. They will be staffed by manufacturers' representatives each day from 9 a.m. to 6 p.m. and from 9 to 10 p.m.

Conway pointed out that the arrangement will give chain and super market operators an opportunity to review the latest equipment and fixture innovations in one location—a consideration of special value to both exhibitors and store operators.

The meeting is to be attended by about 1,000 major executives of food chains and super markets, and representatives of manufacturers, consumer groups and agricultural interests. Member companies of the association operate approximately 15,000 stores and super markets.

JUNE EXCISE COLLECTIONS UP

Collection of manufacturers' excise taxes on mechanical refrigerators, air conditioners, etc. in June were up \$185,458 over those for the same period of 1948, according to the Bureau of Internal Revenue.

June collections on mechanical refrigerators, air conditioners, and the like totaled \$5,518,485, against \$5,333,027 in June of last year.

BTC HAS FOOD PROTECTION PLAN

A new program designed to provide protection against frozen food spoilage has been adopted by Brewer-Titchener Corp. of Binghams, N. Y.

Covering all food freezers and frozen food and ice cream display cases manufactured by BTC, the plan insures purchasers against losses occurring as a result of mechanical, structural failure or in-operation of a component part. No charge is made for the plan which provides protection for a period of five years following delivery.

Under the program, food spoilage losses on 6 to 9 cu. ft. cabinets are covered up to \$100; on 10 to 17 cu. ft. cabinets, up to \$200; and on 18 to 25 cu. ft. cabinets, up to \$300.

The new protection program is in addition to BTC's present warranty against defective operation of compressor units during the same five-year period.

"SECOND" LOCKER SHOW SET FOR OCTOBER 3-6

The frozen food locker industry's second 1949 convention—this one sponsored by the Frozen Food Locker Institute—will be held at the hotel Sherman, Chicago, from Oct. 3 to 6 inclusive.

Besides exhibits of equipment and accessories for locker plants, the convention program will include selection of a beauty queen, "Miss Frozen Food Locker of 1949", presentation of the institute's advertising and merchandising program by H. A. Hohman, of Beaumont & Hohman advertising agency, and a talk on "Why 612,000 New Families Rented Lockers in 12 Months", by John L. Hoppe, of "Locker Management".

Also scheduled are breakfast conferences on slaughtering; meat cutting; packaging, wrapping and marketing; and smoking, curing and sausage making.

MARSH CORP. BUYS VALVE DIVISION OF ELECTRIMATIC

Jas. A. Marsh Corp., Skokie, Ill., has announced the purchase of the Electrimatic Valve Div. of Simoniz Co., Chicago. All Electrimatic valves will henceforth be manufactured and distributed by Marsh Corp.

The Electrimatic line, well known in the refrigeration field, includes pressure actuated condensing water regulators for control of cooling water through condensers, solenoid stop valves for larger cooling systems, suction throttling valves, and back pressure regulators for evaporators.

Commenting on the acquisition of the Electrimatic line, James Emmett Jr., sales manager of Jas. P. Marsh Corp., explained that the purchase was in keeping with an established policy of adding products which can supplement the Marsh line, increasing manufacturing and distribution efficiency.

"The Electrimatic line of automatic valves is a particularly logical companion to our own line of refrigeration gauges, dial thermometers, and testing equipment," Emmett said. "The manufacturing steps are similar to those carried out in manufacturing our gauges, heating specialties, controls and other instruments. We have also had many years of experience in the design and manufacture of equipment closely related to Electrimatic products such as radiator valves and steam traps."

The Electrimatic line will be handled through Electrimatic Div. of Jas. P. Marsh Corp.

A QUARTER-CENTURY OF PROGRESS



A quarter of a century of progress in refrigeration was dramatically highlighted in this display at the American Furniture Mart's 25th anniversary summer show. On the left is a 1924 Kelvinator, one of the earlier electric refrigerators produced at the time the Mart opened its doors in Chicago. On the right is a 1949 two-door Kelvinator which occupies less floor space than its bulky predecessor but provides greater shelf area for food storage. In the middle is Penny Karno, Chicago model.

MOWRY GETS G-E CAPITOL POST

Ralph J. Mowry has been appointed manager of appliance sales for General Electric Co. in Washington, D.C., it has been announced by Harold T. Hulett, Atlantic district manager of appliances sales.

NEW WALK-IN COOLER LINE CONSTRUCTED OF METAL-CLAD PLYWOOD PANELS



Erection of side panels of the Armormply walk-in cooler developed by United States Plywood Corp. in collaboration with one of the large grocery chains. Note that one corner panel and four wall panels are not yet in place.

Development of a revolutionary new type of walk-in cooler made of "Armormply," a thin strip of metal adhesively bonded to plywood, and designed in sections for erection by the user to provide almost any desired amount of refrigerated space, has been announced by United States Plywood Corp.

Using the architectural principle of module—fixed sizes of prefabricated Armormply panels that are assembled where the refrigeration is desired—the new cooler is designed primarily for large commercial, industrial and farm users.

J. J. Dunne, vice president of the plywood company, outlined these features of the cooler:

1. Light-weight, efficient utilization of floor space, easy to clean.
2. Simplicity of design makes assembly easy; no complicated "gadgets" to slow up erection procedure.
3. Can be easily disassembled and moved to another location, enlarged in size, or even reduced in size if necessary. Modular design lends itself to versatility.
4. Use of metal faces prevents transfer of moisture vapor through the walls.
5. A full four inch thickness of insulation in the panel cavity, and advanced design, contribute to low heat transfer and economi-

cal operation with any conventional electrically operated refrigeration unit which the user may wish to purchase.

Dunne pointed out that Armormply panels, which have been scientifically tested for the past two years and which are now in practical operation at the Kraft Food Co. research laboratory at Glenview, Ill., provide an impervious barrier to the transfer of water vapor.

Armormply has long been used in railroad car construction, truck body manufacture, and in many industrial and structural applications.

Utilizing the unique fabrication characteristics of Armormply to meet the economy, serviceability, and sanitary requirements of the food industry, United States Plywood engineers, in collaboration with one of the large grocery chains, developed the unusual construction of modular walk-in cooler. Requiring only five types of modular units, coolers in a wide variety of sizes and shapes can be constructed.

Basic modules are constructed from Armormply, the faces of which can be either stainless steel, aluminum, or electrolytically zinc-coated steel, the latter affording exceptionally good paint adherence.

The modular panels are designed around a full four-inch thickness of Fiberglas insulation. Stan-

dard modular panels are available for coolers 8' high, 8', 10', or 12' wide, and, within two-foot multiples, any length desired. The door assembly and adjacent jamb panels have a six-foot combined span permitting their location in place of any three adjacent standard wall panels of basic two-foot width each. Thus, in effect, the door can be placed almost any location in the cooler. More than one door may be installed if desired.

Erection of the cooler is accomplished with a minimum of labor and requires little or no adjustment of surroundings, since all that is needed is sufficient ceiling height and a floor strong enough to hold the weight of the construction.

REMA COMMITTEES FOR YEAR NAMED

Personnel of the various committees of Refrigeration Equipment Manufacturers Association for the 1949-50 fiscal year was recently announced by W. Vernon Brumbaugh, executive secretary of REMA.

Chairmen and members of the various committees are as follows:

REMA Relations Committee: W. T. Carmody, chairman, Sporlan Valve Co.; Irving Wilson, vice chairman, Superior Valve & Fittings Co.; chairmen of all product sections; R. H. Israel, ex officio, Virginia Smelting Co.

Credit Committee: E. T. Polsten, chairman, Bush Mfg. Co.; B. F. Peterson, vice chairman, Automatic Products Co.; credit managers of all member companies; W. A. Siegfried, ex officio, Superior Valve & Fittings Co.

Export Committee: W. J. Stelpling, chairman, Hussmann Refrigeration, Inc.; F. R. Maggini, vice chairman, International General Electric Co.; R. H. Israel, ex officio, Virginia Smelting Co.

REMA Organization Committee: R. H. Israel, chairman, Virginia Smelting Co.; E. M. Flannery, The Bush Manufacturing Co.; W. J. Stelpling, Hussmann Refrigeration, Inc.; W. A. Siegfried, Superior Valve & Fittings Co.; H. F. Spehrer, Sporlan Valve Co.; K. B. Thorndike, ex officio, Detroit Lubricator Co.

Public Relations Committee: H. F. Hildreth, chairman, Westinghouse Electric Corp.; H. R. Roberts, vice chairman, Whiting Corp.; K. B. Thorndike, ex officio, Detroit Lubricator Co.

REMA Show Committee: H. F. Spehrer, chairman, Sporlan Valve Co.; L. C. McKesson, vice chairman, Ansul Chemical Co.; J. K. Noel, Jr., Victor Products Corp.; J. F. Dailey, Typhoon Air Conditioning Co., Inc.; K. B. Thorndike, ex officio, Detroit Lubricator Co.

Program Committee: H. Blake Thomas, chairman, McQuay, Inc.; John E. Dube, Alco Valve Co.; Jack Searls, White-Rodgers Electric Co.; A. R. Bensus, Ebro Mfg. Co.; R. H. Israel, ex officio, Virginia Smelting Co.

RSES Educational Conference and Relations Committee: G. E. Craft, chairman, Ranco, Inc.; F. C. Coggins, vice chairman, Detroit

Lubricator Co.; Willis Stafford, Chicago Seal Co.; H. T. Jarvis, Refrigeration Engineering, Inc.; K. B. Thorndike, ex officio, Detroit Lubricator Co.

Finance Committee: W. A. Siegfried, chairman, Superior Valve & Fittings Co.; R. H. Israel, Virginia Smelting Co.; W. J. Stelpling, Hussmann Refrigeration, Inc.; H. F. Hildreth, Westinghouse Electric Corp.; W. Vernon Brumbaugh, Executive Secretary, REMA; K. B. Thorndike, ex officio, Detroit Lubricator Co.

REMA-ASA-B9 Safety Code Committee: L. C. Love, chairman, Ebro Mfg. Co.; C. M. Brown, Tecumseh Products Co.; Cecil Bolling, The Heat-X-Changer Co., Inc.; G. E. Craft, Ranco, Inc.

REMA-RISAC Committee: L. W. Larsen, chairman, Tecumseh Products Co.; L. C. Love, Ebro Mfg. Co.; C. M. Cordley, Cordley & Hayes; W. Vernon Brumbaugh (alternate), Executive Secretary, REMA.

Membership Committee: L. C. McKesson, chairman, Ansul Chemical Co.; H. C. Morrison, Curtis Manufacturing Co.; F. L. Craft, Mueller Brass Co.; R. H. Israel, ex officio, Virginia Smelting Co.

Nominating Committee: H. F. Hildreth, chairman, Westinghouse Electric Corp.; E. M. Flannery, Bush Mfg. Co.; R. H. Lacombe, Penn Electric Switch Co.; K. B. Thorndike, ex officio, Detroit Lubricator Co.

General Standards Committee: A. B. Newton, chairman, Acme Industries, Inc.; D. D. Wile, vice chairman, Refrigeration Engineering, Inc.; D. E. Rutishauser, Hussmann Refrigeration, Inc.; L. W. Larsen, Tecumseh Products Co.; R. H. Tull, Westinghouse Electric Corp.; F. Y. Carter, Detroit Lubricator Co.; W. Vernon Brumbaugh, executive secretary, REMA.

General Statistical Committee: E. G. Bower, chairman, Kelvinator Div., Nash-Kelvinator Corp.; J. A. Drake, Norge Div., Borg-Warner Corp.; E. G. South, Frigidaire Div., General Motors Corp.

HANDY & HARMAN DISPLAYS WARES AT METAL SHOW

Handy & Harman will have an operating exhibit at the National Metal Exhibition in Cleveland, October 17-21. The demonstrations will feature the joining of ferrous and non-ferrous metals with the Silver Brazing Alloys, "Easy-Flo" and "Sil-Fos."

Two brazing stations will be in constant operation—one featuring torch brazing and showing how these low temperature alloys make strong, ductile joints by following a simple procedure which does not require skilled operators.

The other station will show how the use of a simple production set-up makes it possible to get any production required.

There will also be displayed a group of typical parts being fabricated by well known companies.

An engineering desk with an experienced man in constant attendance will be maintained to aid those who have problems they want to discuss.

FOGEL EXPORT CHIEF TOURS SO. AMERICA

Maurice Zatzko, export sales manager for Fogel Refrigerator Co. of Philadelphia, has just commenced a 4 to 6 week trip to Central and South America.

He will visit key distributors in various countries and inspect some recent Fogel installations.

Another purpose of Zatzko's trip is to conduct field sales meetings during which the distributors and his dealer organization will be present.

NEW FIRM WILL SERVE S. E. MICH.

The newly-formed Detroit-York Corp., Detroit, has announced its appointment as distributor in the Detroit area of the air conditioning and refrigeration equipment manufactured by York Corp.

The new company, located at 14385 Wyoming Ave., succeeds Talbert-Thomas Co. of Michigan as a York distributor.

In addition to the Detroit area, the York-Detroit firm will serve 14 surrounding

counties. Cities in the territory include Jackson, Ann Arbor, Lansing, Pontiac, Flint, Port Huron, Mt. Clemens, and the downriver area to and including Trenton.

Officers of the company are Carl F. Clarke, president; William J. Brinkmann, vice president and general manager; Frank A. Morrison, treasurer; and George L. Cassidy, treasurer.

DOW BUILDS NEW AMMONIA PLANT

Plans for construction of a \$5 million ammonia plant at Freeport, Tex., has been announced by Dow Chemical Co. The plant will have a capacity of approximately 100 tons per day.

Field construction is expected to start about January 1st, and it is anticipated the plant will be in operation late next year. The plant will utilize hydrogen available from the company's huge chlorine plant there and combine it with nitrogen from the air to form anhydrous ammonia.

ASRE DECEMBER MEETING TO BE HELD IN CHICAGO

The 45th annual meeting of American Society of Refrigerating Engineers will be held in the Edgewater Beach Hotel, Chicago, from Dec. 4 to 7, with the Chicago section of the society as hosts. Because of the central location, a record attendance for winter meetings is anticipated.

Program for the meeting, now being completed, will include several general sessions and at least three forums for discussion of problems relating to domestic refrigerators, condenser water and room air conditioners.

WHITE-RODGERS OPENS BRANCH IN DETROIT

White-Rodgers Electric Co., maker of automatic controls for heating, air-conditioning and refrigeration, has announced the opening of a new branch office at 3-219 General Motors Building, Detroit, Mich., which will service

Detroit and surrounding area.

Charles M. O'Brien is Detroit district manager.

G-E NAMES 3 MORE AS PARTS DEPOTS

The General Electric Co.'s air conditioning department has recently franchised three additional concerns as parts depots. These firms are Paramount Electrical Supply Co., Inc., New York City; United Commercial Sales Co., Los Angeles; and Perry-Mann Electric Co., Columbia, S. C.

As parts depots, they will handle the sale of G-E condensing units up to and including 10 hp. They will also stock repair and replacement parts for all G-E condensing units, and G-E sealed condensing units for replacement purposes.

Approximately 60 similar parts depots have been set up throughout the country by General Electric to promote the sales of condensing units and to facilitate the distribution of renewal parts to fixture and equipment manufacturers' customers, wholesalers, retailers, and servicers.

Prest-O-Lite
TRADE MARK

CYLINDERS

... for Refrigerant Gases

MADE BY *Linde*



PREST-O-LITE cold-drawn cylinders for refrigerant gases—Freon, Carrene, sulphur dioxide, methyl chloride—are available for prompt shipment from stock in 5-, 10-, 25-, and 35-lb. sizes. Other sizes—50-, 100-, 150-lb.—or special sizes or designs can be quickly made to your specifications.

Rugged, durable, dependable, PREST-O-LITE cylinders are engineered to take the knocks of rough handling and abuse. They more than meet the specifications of the Interstate Commerce Commission and other regulatory bodies. They're the first choice of those who demand the best. Send for full information today.

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

30 E. 42nd St., New York 17, N. Y. **U.S.** Offices in Principal Cities

In Canada: DOMINION OXYGEN COMPANY, Limited, Toronto

NO ORDER TOO LARGE OR TOO SMALL!

The term "Prest-O-Lite" is a trade-mark of The Linde Air Products Company.

CONTRACTORS

News • Activities • Plans

Contractors Schedule Convention For All-Industry Show Period

The Refrigeration and Air Conditioning Contractors Association (formerly the National Association of Refrigeration Contractors) will hold its fourth annual convention in Atlantic City on Sunday and Monday, Nov. 13 and 14.

Convention program chairman Warren W. Farr announces these dates were recently selected in preference to the dates previously set (Nov. 16 and 17) to provide complete freedom for the contractors for the entire duration of the All-Industry Exposition to enable them to attend meetings and exhibits as desired.

RACCA general meetings will be held in morning and afternoon sessions on Sunday, Nov. 13. A lunch-

eon is also planned for that day, with speaker Robert B. Dawkins from the Federal Trade Commission. Included in the program at the general meetings will be a talk titled "Return to Salesmanship" by Harry M. Bowser, manager of the education department of Thomas A. Edison, Inc., West Orange, N. J.; and "Air Conditioning Imagineering" by C. S. Stackpole, vice-president and general sales manager, Airtemp Div. of Chrysler Corp.

Monday morning will be devoted to business meetings of the membership, with adjournment scheduled to allow ample time for the members to attend the opening of the Show at 2 p.m.

Detailed programs will be released shortly.

JAMES TERRY DIES; EX-RACCA DIRECTOR

James Terry, a former director of the Refrigeration and Air Conditioning Contractors, died of a heart attack on Aug. 27 in his hotel room in Miami Beach, Fla. He was 45 years old. He had until recently been head of Dresco Refrigeration, Detroit contractor firm.

Terry had been a director of the Refrigeration Contractors Association of Detroit and a member of Refrigeration Service Engineers Society and of the Engineering Society of Detroit. He also had been active in ASRE and ASHVE in that city.

SEED STORAGE ROOM IS AIR CONDITIONED

Slaughter & Taylor, Palmetto, Fla., have just completed installation of a modern type refrigerated and air conditioned seed storage room.

"Installation of refrigerating and air conditioning equipment in our seed storage room enables us to keep seeds in perfect condition at all

times," said Jack Taylor. "Temperature and humidity are controlled and kept at the correct point to assure that seeds are delivered to our customers in strictly fresh condition. Seeds kept under controlled temperature and humidity do not deteriorate as is sometimes the case where they are exposed to wide variations in temperature and humidity."

REFRIGERATION IMPORTANT IN FLOWER HANDLING

Refrigeration plays a big role in the wholesale florist operation of the Niessen Co., Philadelphia, both in the storage of flowers and in preserving them during storage.

The firm's new building at 256-70 S. 23d St. contains a 65 x 20-foot custom-built walk-in refrigerator for general flower storage, a smaller one measuring 15 x 20 feet for storage of expensive orchids and gardenias, and a chipped ice making machine for use in the packing department.

The large refrigerator was made of concrete block lined with cork insula-

tion by Armstrong Cork Co. of Lancaster, Pa. York refrigeration units and diffusers were employed. The floor is of concrete and has a slightly concave surface dipping toward several drains so that flower offal can be washed away easily with hoses. The smaller refrigerator is constructed in the same manner.

The large refrigerator is divided lengthwise into two parts. One is devoted to the storage of flowers for out-of-city shipments and the other is used for local sales. Communication between the two sections is by three large doors. Entrance to both the front and back of the refrigerator also is by three large doors.

Especially in the hot summer months, rapid transfer of incoming flower shipments into the refrigerator, and of outgoing shipments to the packing department is essential to prevent spoilage of the flowers.

To expedite the movement of flowers, scores of aluminum tables are used. Incoming flowers are placed in metal vases of water and stored in the refrigerator on these tables.

In the mornings, the tables are wheeled out to the packing department and the local sales department for the day's business. At the close of business, the remaining flowers are wheeled back into the refrigerator.

The chipped ice maker, a York unit, is used in the packing department for preparing flowers for long-distance shipment. The machine operates constantly and the overflow of ice is chuted to the basement for use the next morning when the influx of flowers is heavy.

CONDENSER FOULING IS ASRE PAMPHLET TOPIC

"Control of Condenser Fouling by Water Treatment" is the title of the latest Application Data Section issued by the American Society of Refrigerating Engineers.

The six-page pamphlet (AD 46) begins with a discussion of the influence of design on fouling, defines fouling, and describes among other things once through vs. recirculating water systems, controlling concentrations in a recirculating system, water velocity and distribution, physical maintenance, scale control tests, types and methods of treatment, corrosion, pH control, bio-fouling or algae and slime control, and chemical cleaning of condensers.

CAPILLARY TUBE . . .

Continued from page 27

temperature ice cream or frozen food cabinets. It can be used with any type of refrigerant.

The capillary cannot be used on multiple systems. However, a short length connecting two evaporators together in series will produce a two-temperature effect. Temperature differential in this case will depend on the amount of pressure drop across the capillary.

I can see no reason why a metering tube cannot be developed for use with any size system, if such a system would be desirable. However, the capillary is seldom used at present on anything larger than 1/3 hp.

Good, bad or indifferent, the capillary, like the sealed unit, is here to stay, and many of us who spent years laughing such a system to scorn have awakened to find that it has replaced other types of expansion devices on an impressive number of domestic and small commercial units. It can't be all bad.

IT'S A GIVEAWAY! . . .

Continued from page 31

to the program of frozen food gifts, has sold more commercial refrigeration units than any other promotional plan he has ever used, O'Toole reports. "All of our clients," he explains, "know they can count on plenty of help from us."

In addition to handling standard items of commercial refrigeration equipment in a far flung territory ranging from the Mexican border to the Montana state line, the company also makes a specialty of constructing custom-built refrigeration units for applications where no standard manufactured products will fit into the customer's plans.

Whenever he makes an installation of this tailored type, O'Toole believes in letting other prospects in that area know about it. He accomplishes this through the medium of personal letters, pictures, and testimonials from the satisfied users themselves.

Naturally, covering so large a territory has raised some serious sales and service problems for this Denver dealer, but in most cases air transportation has provided the answer. Despite the remoteness of many of

its installations, some of which necessitate aerial trips of 800 miles or more, General Appliance Co. cheerfully promises fast service and backs it up. New motors, compressors, and even complete condensers are sent by air express or chartered planes wherever airport facilities exist.

"Many of our customers can do their own work when we ship the parts," O'Toole says, "but if they are not able to do so air transportation makes it possible for us to fly a serviceman up to the job and have him

back in the shop within a few hours' time. Naturally this type of maintenance trip is a costly proposition, but we feel that it is well worth this expense to maintain our reputation for prompt and efficient service."

NAMED LOCAL MANAGER

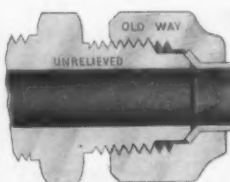
Edward L. Stehle has been appointed local manager of General Electric appliance sales in Pittsburgh, it has been announced by Harold T. Hulett, Atlantic district manager.



✓ Guaranteed not to loosen, split, or crack

✓ Priced no higher than regular flare nuts

- Another 'first' for REMCO—and it's big news for both the manufacturer and the service engineer. These new-design "Frost-Tite" forged flare nuts can be used anywhere in the system . . . for every installation . . . for they cost no more than ordinary unrelieved flare nuts and will definitely insure against loosening up, splitting or cracking.

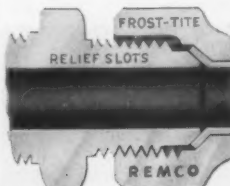


✓ Unrelieved flare nuts loosen up because water completely fills the space between the nut and the fitting . . . then during the "ON" cycle this water freezes and expands, causes the nut to loosen or crack.

"Frost-Tite" flare nuts are an absolute "must" for the lowside, for the frost relief slots relieve all freezing force—therefore there can't be any loosening, splitting, or cracking.

Carried in stock by leading wholesalers everywhere.

Literature and Prices on Request



✓ In "Frost-Tite" flare nuts the forged frost-relief slots provide relief for the expanding ice . . . thus no force is created and therefore there can be no loosening, splitting, or cracking.



West Coast warehouse stock at: 2103 So. San Pedro, Los Angeles, Cal.
EXPORT DEPARTMENT: Melchior, Armstrong, Dessau—Ridgefield, N. J.

ICE-FLO ICE MAKER . . .

Continued from page 29

Cubes turned out by X-models are designed to fit all types of glasses. They also meet hospital requirements and fit ice packs, thermos bottles, etc. Cubes made by the Ice-Flo method neither mat nor stick together.

Attractive in appearance, the X-10 has the cabinet top, control panel and storage bin finished in stainless steel. Sides and front are bonderized and painted. Dimensions are as follows:

height 50 inches; width 60 inches; overall depth 39 inches.

Machine is equipped with a 1 hp, hermetic, water cooled compressor, available in 230 volts single phase a.c. All refrigeration components are of standard manufacture and there are no moving parts in the evaporator. Freon 12 is the refrigerant.

Operation is 100% automatic. Cost per bushel of ice produced is estimated at least 2/3 less than the cost of commercial cubes.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

YORK ADDS CRUSHER TO AUTOMATIC ICE MAKER

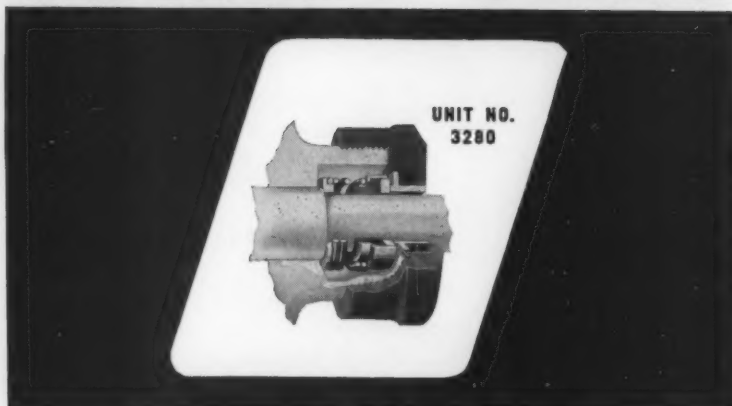
York Corp., whose automatic ice maker was one of the earliest on the market, announces a new development in the machine which enables it to deliver uniformly crushed ice at point of use, as well as the famous "cube-with-a-hole".

Ice service users can now, with a flip of a switch, obtain the type of ice desired, whether cube or crushed, in the quantity needed and in virtually unlimited supply.

The crushing device is just below the chute which delivers the cubes to the stainless steel storage bin. A baffle directs the crushed ice into a separate section of the bin, apart from the uncrushed cube ice, thus making both types of ice available as required by the user.

Designed to deliver ice particles of uniform size, the crusher can be ad-

ROTARY SEAL



REPLACEMENT UNITS

For all makes and sizes of Commercial, Semi-Commercial, Air Conditioning, and Household Refrigerator Compressors. ROTARY SEAL Units are known throughout the world for . . . *Simplicity in Construction . . . Ease of Installation . . . Efficiency of Operation . . . Economy.* The original time-tested, precision-built replacements — 18 years of service.

**MORE THAN
848
MODELS**



**AT ALL
LEADING
JOBBERs**

"Seal with

Certainty!"

**2020 NORTH LARRABEE STREET
CHICAGO 14, ILLINOIS, U.S.A.**

**CANADIAN AGENT: 2025 ADDINGTON AVENUE
MONTREAL 28, QUEBEC, CANADA**



justed at the factory to produce any size within the limitations of the original cube. While the crusher is now an integral part of the automatic ice maker, the company will supply machines without it, at a correspondingly lower price, if the user's ice service does not require it.

The complete York automatic ice service unit is self-contained in about 2 x 3 feet of floor space and can be installed right where it is used. It consists of a top section housing the freezing mechanism, a middle section containing the crushing mechanism, and a bottom section containing separate storage compartments for cubes and for crushed ice. When water and electrical connections have been made, it is ready to operate.

CARRIER ICE MAKER . . .

Continued from page 29

ing 410 pounds of ice (8,500 cubes) every 24 hours, operating on an approximately 1/2-hour freezing cycle.

The machine is available for either 115 or 230 volt current and is easily connected with water supply and drain.

The machine is compact in design and is finished in neutral gun metal gray. Approximately 77 inches high, it occupies a floor area of only 25 inches x 24 inches, with a bin which stores eight hours production or 160 pounds of cubes. An alternate bin of 240 pounds storage capacity also is available.

When the machine is in operation it automatically delivers ice until the bin is full, at which time automatic controls shut it off until such time as ice is removed from the bin. The freezing cycle then automatically resumes until the bin is completely refilled.

An ice crusher accessory for making sized or crushed ice is being made available by Carrier.

SERVEL ICE MAKER . . .

Continued from page 29

health department requirements. The new ice cube machine operates automatically freezing 156 cubes approximately every 30 minutes.

Newly frozen, crystal clear cubes drop into an insulated storage compartment which holds up to 1400 cubes or 60 pounds. Thermostatically controlled the Iceman automatically stops when storage space is filled. Partial or complete removal of ice causes the machine to instantly resume operation, thereby keeping storage bin at capacity.

Since recirculation is eliminated, maximum use of water is made with 4 of every 5 quarts fed into the machine resulting in frozen cubes.

To begin the freezing cycle, 5 quarts of fresh water direct from source are automatically fed into a patented sealed platen evaporator. All during the rapid freezing, water is kept in constant agitation to insure crystal clear cubes.

When freezing is complete, a rapid defrosting action takes place. The sealed platen releases slightly to permit siphoning off approximately one quart of water through a specially de-

signed drain trough. This completed, the platen is automatically lowered, permitting the cubes to drop into the storage compartment.

Although the new Ajax Electric Iceman is only 41 inches high and will fit in a space of 20-3/4 by 33-1/16 inches, its capacity is up to 360 pounds or up to 7,500 cubes daily.

The present exclusive distributors of Ajax air conditioning equipment will handle all sales of the new Electric Iceman. Many new exclusive distributors have been appointed by Ajax, with some few territories yet to be covered.

McQUAY ICE MAKER . . .

Continued from page 29

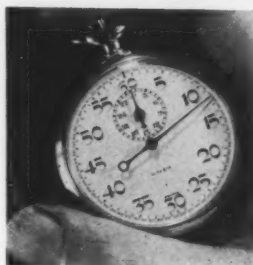
sidiary of McQuay, Inc., Minneapolis manufacturer of heating, air conditioning and refrigeration equipment.

The new ice maker is designed to produce round ice tips instead of cube shaped ice on the user's premises. The advantages claimed are savings up to 85% on commercial ice costs; more cooling surface due to shape of tips; and ease of handling, as the tips will not freeze together.

The ice is frozen in a stainless steel

Finds ALL the MOISTURE in 2 MINUTES

Thawzone Makes Complete Circuit of 1/2 H. P. Unit in 42 Seconds!

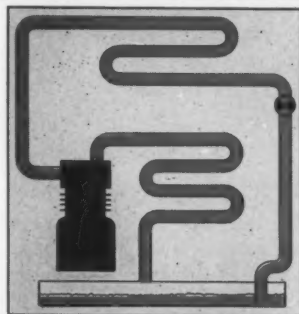


You get action with Thawzone. It's quick to "install". Just pour it in. Then start the compressor and Thawzone will travel about 300 feet per minute to every

part of the unit. This enables it to get into action quickly. Also, you save time you used to spend figuring out sizes and going on rush trips for parts. You clear up the trouble sooner and finish more jobs per day.

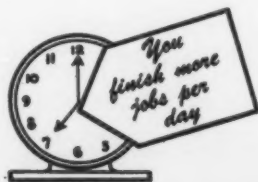
Finds Moisture That's Beyond Reach of Other Methods

Thawzone travels to the moisture . . . and reaches all of it. Thawzone reaches the expansion valve, the receiver, the tubing walls, highside and low-side. Only this liquid method can do that. And the moisture is gone for good—can't "break loose" later.



Reaches The Entire Unit

Use Thawzone in "Freons", methyl chloride, "Carrene" or isobutane. Use 1 teaspoonful (1/4 oz.) per pound of refrigerant. Use half as much in hermetic units. Highside Chemicals Co., Colfax Avenue, Clifton, N. J.



THAWZONE®
LIQUID DEHYDRANT...
reaches all the moisture

tank containing tap water. The ice tips are free of air bubbles that kill carbonation in drinks, thereby keeping beverages fresh longer.

Capacity of the ice maker is over 3,300 crystal tips (up to 6 bushels or 240 pounds) daily.

Overall dimensions are 41 $\frac{3}{4}$ inches high, 47 inches wide, and 23 $\frac{3}{4}$ inches deep. Taking only 7 $\frac{3}{4}$ feet of floor space, the ice maker is made to fit under a bar or in other places where it will be the most convenient for users.

An adequate stainless steel storage-

and-service bin holds approximately three bushels of "ice tips".


Operation is completely automatic. Tubes containing a refrigerant are hydraulically lowered into a reservoir in which the depth of the water is maintained at a constant level.

The ice builds up on the tubes for 30 minutes then they are raised from the water. The hot gas defrost releases the ice tips which are shuttled into the storage bin. The cycle is repeated until the storage bin is full. Thermostatic controls start and stop the machine.

Demand the **"RISK-FREE"** Refrigerant Drying Agent

PA 100*

DAVISON Refrigeration Grade SILICA GEL



better drying • no corrosion • no dusting

Recent tests show that PA 100, reduces the level of ice formation an average of 7°F lower than other materials tested. PA 100 did not and cannot cause corrosion—it actually helps stop corrosion by removing corrosive compounds from the system. PA 100 showed better than 170 times greater resistance to dusting.

Now add the fact that PA 100 does not cake, deliquesce, channel refrigerants, or cause any undesirable reaction even in permanently installed driers, and you can see why PA 100 is by far the favorite in the field.

Ask Your Jobber For Dehydrators Charged with PA 100 . . . or for the bulk can with the blue label.



For complete results of tests, write for your free copy of "COMPARISON OF PA 100" folder.

*T.M. REG. APP. FOR

THE DAVISON CHEMICAL CORPORATION

Progress through Chemistry



BALTIMORE-3, MD.

PIONEERS AND DEVELOPERS OF SILICA GEL

Canadian exclusive agents for DAVISON SILICA GEL:

CANADIAN INDUSTRIES LIMITED, Sales Division—Chemicals Department

ALL-INDUSTRY SHOW . . .

Continued from page 34

Kold-Hold Mfg. Co.; Kramer Trenton Co.; Kenmore Machine Products, Inc.

L

Larkin Coils; Lehigh Mfg. Co.; Lewin-Mathes Co.; Linde Air Products Co.; Lynch Corp.; John Lees Div., Serriek Corp.; Libbey-Owens-Ford Glass Co.; LaCrosse Cooler Co.

M

McCord Corp.; McCray Refrigerator Co.; McIntire Connector Co.; McQuay, Inc.

Edward R. Magnus Co.; Marlo Coil Co.; Jas. P. Marsh Corp.; Merchant & Evans Co.; Metals & Controls Corp.; Spencer Thermostat Div.; Mills Industries, Inc.; Mitchell Mfg. Co.; Mueller Brass Co.

N-O

Nash-Kelvinator Corp., Kelvinator Div.; Nevinger Mfg. Co., Inc.; Nickerson & Collins Co.; Edward Owen & Co.

P-Q

Pacific Lumber Co.; Paragon Electric Co.; Patterson-Kelley Co., Inc.; Penn Electric Switch Co.; H. A. Phillips & Co.; Pinnacle Equipment Corp.; Polar Hardware Co.; Quiet-Heat Mfg. Corp.

R

Ranco, Inc.; Redmond Co., Inc.; Refrigerated Equipment Sales Corp.; Refrigeration Appliances, Inc.; Refrigeration Corp. of America; Refrigeration Engineering, Inc.; Remeo, Inc.; Remington Air Conditioning Div., Remington Corp.; Resistoflex Corp.; Rigidbilt, Inc.; Rome-Turney Radiator Co.; Rotary Seal Co.

S

Seovell Mfg. Co.; Servel, Inc.; Sherer-Gillett Co.; Sporlan Valve Co.; Stainless Food Equipment Co.; Standard Refrigeration Co.; Emil Steinhart & Sons, Inc.; Smith Corp., A. O.; Snap-On Tools Corp.; "Southern Air Conditioning & Refrigeration Journal"; Sub Zero Freezer Co., Inc.; Sun Oil Co.; Superior Valve & Fittings Co.; Super-Cold Corp.

T

Tecumseh Products Co.; Temprite Products Corp.; Tenney Engineering, Inc.; Texas Co.; Emery Thompson Machine & Supply Co.; E. H. Titchener & Co.; Traulsen & Co., Inc.; Tyler Fixture Corp.; Typhoon Air Conditioning Co., Inc.; Techniflex Corp.

U

Ultra-Violet Products, Inc.; United Frigutator Engineers; United Mfg. & Service Co.; United Refrigerator Co.; United States Air Conditioning Corp.; Universal Cooler Div., Newport Steel Corp.

V

Victor Products Corp.; Victory Metal Mfg. Corp.; Viking Copper Tube Co.; Virginia Smelting Co.

W

Wabash Mfg. Co.; Wagner Electric Corp.; Wagner Tool & Supply Corp.; Weatherhead Co.; Westinghouse Electric Corp.; White-Rogers Electric Co.; Whiting Corp.; Wilson Cabinet Co., Inc.; Wolverine Tube Div.

Y-Z

Yates-American Machine Co.; General Refrigeration Div.; York Corp.; Zero Mfg. Co.



BAKER EMPLOYEES FORM OWN CREDIT UNION

Employees of Baker Refrigeration Corp. of South Windham, Me., have organized the Bimco Federal Credit Union. Fifty-three Baker employees have signed up for shares and automatically become charter members of the Credit Union.

Authorization and charter was received from The Bureau of Federal Credit Unions, Social Security Administration, Federal Security Agency in Washington. Members deposit their savings with the Credit Union's treasurer and members may borrow when the occasion arises with the approval of the Credit Committee. Repayments may be made weekly or each pay period.

ON THE BEAM

Sam Werb, who owns and operates Sam's Refrigeration Service in Denver, Colo., is mighty proud of his new telephone-equipped truck. He finds the phone handy for checking with his own office or for calling ahead to McCombs Refrigeration Supply Co. so that parts will be ready for him to pick up when he arrives.



EXTRA!

JAS. P. MARSH
acquires Electrimatic
Valve line

The purchase of the Electrimatic Valve Division of Simoniz Co., Chicago, has been announced by Jas. P. Marsh Corporation. Well-known throughout the refrigeration field, the Electrimatic line includes water regulators for control of condenser cooling water, solenoid stop valves, suction throttling valves, and back pressure regulators. All of these products will be manufactured in a full range of sizes in the new Marsh plant at Skokie, Ill.

Jas. Emmett, Jr., Sales Manager of the Marsh Corporation, explained that the purchase of Electrimatic valves was in keeping with the Marsh policy of reaching out for products that will strengthen the Marsh line, step up manufacturing efficiency, and thus increase the effectiveness of Marsh service in the refrigeration and air conditioning fields.

"The Electrimatic line fits into this scheme perfectly," Mr. Emmett explained. "It is a particularly logical companion for our own line of instruments and valve specialties. Its manufacture involves the same production facilities and methods which have been so carefully planned and carried out in our new plant. Above all, it fits our experience. We feel certain that we can make further contributions to the quality and effectiveness of these already highly respected products."

See Your Wholesaler

Electrimatic Control Valves and Regulators by — **MARSH**

- Condensing Water Regulators
Types for all services in a full range of sizes
- Back Pressure Regulators
- Suction Throttling Valves
- Solenoid Stop Valves
- Liquid and Suction Stop Valves
- Solenoid Unloader Valves
- Strainers

The sale of Electrimatic products will be handled by:
THE Electrimatic COMPANY DIVISION OF
JAS. P. MARSH CORPORATION, DEPT. P, SKOKIE, ILL.

BOSTON WHOLESALE GETS NEW HEADQUARTERS

A. E. Borden Co. Inc., Boston, Mass., wholesaler in the refrigeration, L.P.-gas and industrial equipment fields is now located in modern new headquarters at 176 Brookline Avenue. Former location was at 142 High Street.

The firm was established in 1923. A. E. Borden is president and C. E. Borden is vice president and general manager.

In addition to its general whole-

sale operations on parts and supplies, the firm also has an Equipment Division which distributes major appliances and a Gas Fittings Division which distributes gas appliances and equipment in addition to fittings.

An Open House for dealers will be held at the firm's new headquarters in the near future. The move to the new quarters was made in culmination of plans of long standing to secure a location less crowded from the traffic standpoint than the former address, and to allow addition of several new facilities to increase the

firm's service to the trades covered.

The new building runs from 176 Brookline Ave., where office and sales room are, through 1383 Boylston St., at which entrance counter service and shipping facilities are located for convenient access.

Albert W. Nelson is sales manager of the Equipment Division. Lines distributed include Amana freezers, Penguin ice cube makers, Colbar beverage coolers, Brunner packaged air conditioners, Fedders room air conditioners, Portland refrigerated sandwich units, Nesco space heaters and stoves, Welch Air-Flight Circulators, Tempprite water coolers and other items.

Eric Larson is manager of the Propane gas equipment division, which carries a large and complete stock of gas fittings and equipment such as heaters, hot plates, meters, torches, regulators, etc.

A. E. Borden Co. Inc. is the eastern New England franchised parts depot for General Electric refrigeration condensing units and parts.

The company is a member of the Refrigeration Equipment Wholesalers Association and also the National Butane-Propane Association.

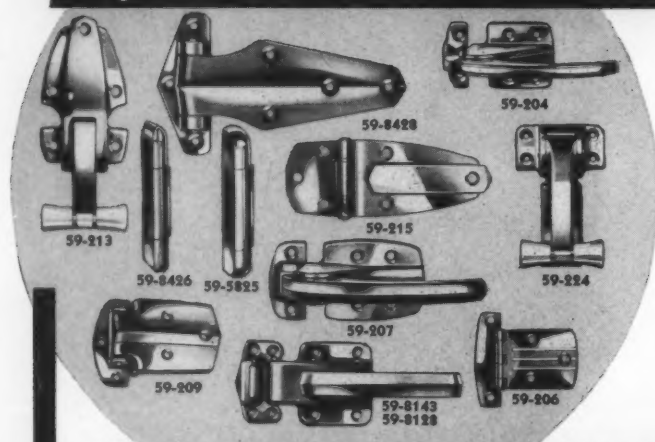
The company has a branch organization in Portland, Maine, located at 384 Fore Street. Leo Heffernan is manager of the branch.

Norman C. Honecker, a registered professional engineer, is refrigeration sales engineer of the organization, covering New Hampshire and parts of Massachusetts. George Di-Benedetto heads refrigeration sales in eastern Massachusetts and all of Rhode Island. Iver Jacobson is in charge of metropolitan Boston industrial equipment sales. Total personnel numbers 40.

OBERC TO DISTRIBUTE HOTPOINT COOKING LINE

J. M. Oberc, Inc., pioneer Detroit refrigeration parts wholesaler, has been appointed distributor for the Hotpoint line of commercial electric cooking and baking equipment for the southern Michigan peninsula with the exception of counties in the Chicago trading area. According to J. M. Oberc, president, the distribution of the new line will be handled by a separate division established for the purpose and will be entirely separate from the company's regular refrigeration parts and supplies business.

Refrigerator Hardware by NATIONAL LOCK



DESIGN LEADER FOR THESE AND MANY MORE COMMERCIAL AND DOMESTIC APPLICATIONS

- REACH-IN CABINETS • DISPLAY CASES • BACK BARS
- DRAFT BEER EQUIPMENT • BOTTLED BEVERAGE COOLERS
- STOKERS • MILK COOLERS • FLORISTS BOXES
- COIN-OPERATED REFRIGERATED DISPENSING MACHINES
- LOW TEMPERATURE HORIZONTAL OR VERTICAL CABINETS
- MANY OTHER TYPES OF REFRIGERATING EQUIPMENT

Distinctive styling . . . easy application . . . proven dependability . . . these are a few of the numerous advantages offered you with National Lock refrigerator hardware. Ask your jobber for complete information and prices. Prompt delivery is assured on all items.



NATIONAL LOCK COMPANY

ROCKFORD, ILLINOIS • REFRIGERATOR HARDWARE DIVISION

ABOUT PEOPLE . . .

Continued from page 30

ing, installation and service of air conditioning and refrigeration equipment.

Fisher has had extensive experience in the field, having formerly been in charge of the marine section of the air conditioning department of the General Electric Co. He was in the Merchant Marine during World War II.

Melvin D. Miller, who has had 17 years' experience in Norge appliance



service work, has been made manager of the appliance service division, Refrigeration Maintenance Corp. Announcement of the appointment is made by Warren W. Farr,

president of the corporation and of Refrigeration Sales Corp., recently appointed exclusive Norge distributor in the northeastern Ohio territory.

Miller began his service experience with a Norge dealer in Bellefonte, Pa., was service supervisor for 11 years for the Columbus and Cleveland Norge distributors.

Eldon C. Benson & Co. of Lynchburg, Va., has been appointed as manufacturers representative for Temprite Products Corp. for the state of Virginia. The appointment was effective Aug. 1.

Benson will represent Temprite on its complete line of water coolers and refrigeration equipment and will have headquarters in the Peoples Bank Bldg., Lynchburg, Va. He has had considerable experience in connection with refrigeration and air conditioning, and also is familiar with electrical supply outlets and plumbing wholesalers in this area.

A. S. Lawrence has been named Kelvinator's Minneapolis zone manager, it is announced by C. T. Lawson, vice-president of Nash-Kelvinator in charge of Kelvinator sales.

Manager of the Kelvinator major markets division in Detroit for the past three years, Lawrence joined the

Kelvinator organization in 1940 as electric range and water heater sales manager of the New York zone. As head of the Minneapolis zone, which covers Minnesota, North Dakota, and western Wisconsin, Lawrence succeeds George M. Jensen, who resigned.

Stanley J. Roush, president, Kerotest Manufacturing Co., has announced the appointment of **W. M. Frame** as works manager in charge of all engineering and manufacturing

operations. Frame was formerly works manager of the Spang Chalfant division of National Supply Co.

J. F. Fitzsimmons has been named manager of Allis-Chalmers commercial research department effective Aug. 1, succeeding J. R. Reed, who has resigned to establish his own business, according to J. L. Singleton, vice-president and director of sales of the company's general machinery division.

B M P

announcement

This new signature now identifies one of the finest lines of refrigeration fittings on the market.

Madden Brass Products Company, an entirely independent and experienced organization under the ownership and personal operation of M. B. Madden has taken over the line formerly marketed under the brand name "Electrimatic." This high quality line includes:

Forged Flare Nuts and Fittings
Quick Couplers • Charging Lines
Strainers • Driers

B M P

The trade representation of the precision-made fittings and other accessory items remains practically unchanged and you will continue to benefit from the same fine service you have received in the past.

ASK YOUR WHOLESALER

MADDEN BRASS PRODUCTS CO.

1111 NORTH FRANKLIN STREET • CHICAGO 10, ILLINOIS
CANADA—2025 Addington Avenue, Montreal

USE
THE
OIL
THAT
MAKES
COMPRESSORS



... BUSINESS

GROW

Assure compressor efficiency ...
build your business ... with Texaco Capella Oils

WHEREVER you fit into the picture ... as service engineer, dealer or distributor ... you benefit by the better compressor operation assured by *Texaco Capella Oils*.

Texaco Capella Oils keep compressor cylinders and valves clean. They are moisture-free, therefore do not react with refrigerants. They help keep coils clean, too. They are highly refined, and highly stable. They have very low pour tests and very high resistance to gumming

and sludging. You can get *Texaco Capella Oils* in the viscosities you need ... in sealed 1 qt., 1-gal. and 5-gal. containers.

Texaco Capella Oils are approved by leading manufacturers of compressors for air conditioning and refrigerating equipment. Their names are listed on the free Lubrication Guide offered at the right. Ask for your copy today. The Texas Company, 135 East 42nd Street, New York 17, N. Y.

FREE LUBRICATION GUIDE

Latest edition. Lists makes and types of compressors and refrigerants used in 63 Electric Refrigerating Units and 31 Air Conditioning Units. Shows recommended grade of *Texaco Capella Oil* for each. Use guide as wall chart, or bind into service manual.



TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



THE PRACTICAL Refrigeration Applications MANUAL... by Harold Smith

THE Practical Refrigeration Application Manual extends a helping hand to those refrigeration and air conditioning men who occasionally encounter field engineering problems too tough for them to handle. Space limitations make it impossible to give complete detailed information covering each step necessary for the installation or erection of refrigeration equipment, insulation or fixtures. It is necessary to assume that those readers who request assistance with their problems are familiar with these basic fundamentals. If they are not, it is suggested that they seek this advice from their sources of supply when purchasing the materials which they intend to use on the job. Most suppliers are equipped to furnish such information. Readers are urged to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: **COMMERCIAL REFRIGERATION AND AIR CONDITIONING, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.**

PROBLEM

We are pleased to announce that even our foreign readers now are availing themselves of the facilities of "The Practical Refrigeration Applications Manual". This month's problem, quoted verbatim below, was received from one of our readers in the Philippines.

—The Editors.

"WILL you please give me the correct answer? I don't know the trouble in my unit which I constructed as a popsicle maker. For two days I continue operation the unit temperature still is 20 F. It can't make the temperature below zero F. You know the temperature 20 F doesn't produce the said popsicle.

"I use a G-E ice box, 8 feet long, 3 feet wide, 2 1/2 feet high, both sides are 4 inches cork. I use two Carrier 3-hp condensing units; for one unit I use 400 feet % o.d. copper tubing in two compartments and two Detroit thermostatic expansion valves. In the other unit I use 600 feet % copper tubing in two compartments and two expansion valves. These two condensing units operate at the same time.

"The pressure is 150 pounds in the high side, the low side is 15 pounds. Both of them use Freon 12. The brine is 35 cu. ft. I mixed the calcium chloride 4 pounds to 1 gallon brine.

"The room temperature is 75-80 F. What is the trouble for 6-hp condensing unit does not make the temperature zero just for one 8-foot-long ice box?

"Isn't it true when the brine mixed with acid or any solution it can't take the temperature below zero F?

"Please give me the solution. Thanks."

(In response to a request for more specific and detailed information on this installation, the editor of the "Manual" received the following supplementary data on which to base his analysis.)

"All insulation on sides, ends, and bottom of cabinet are 4 inches cork. There is a coil of 1/2-inch tubing used with each of the four compartments used to hold the popsicle mix. Two of these coils are 200 feet long and two are 300 feet long, each with its own expansion valve.

"There are 35 cu. ft. (approximately 260 gallons) of brine, and all four mix compartments are set down in the brine solution. About 12 gallons of mix are placed in the solution at one time, with a total of 550 to 600 gallons being used for 24 hours. About 1/2 hour is allowed for each 12-gallon batch of mix. Temperature of mix is normal.

"Temperature wanted for popsicles is zero to 10 F. Brine tank is galvanized steel; outside is steel with paint.

Space from cover to brine is about 6 inches distant. Cover has 2 inches of cork insulation. Brine mix at 28.7% anhydrous calcium chloride.

"Condensing units are air cooled. Machine is being operated on 15-pound low side pressure. Low side control ranged 0-25 is used."

SOLUTION

WE have carefully analyzed the problem you sent to us regarding refrigeration equipment for the manufacture of popsicles.

The production schedule of 24 gallons per hour on a 24-hour basis represents a heavy maximum capacity load, utilizing the entire cabinet capacity. You have stated that the product solution is placed in the freezing compartments at a maximum temperature of 80 F and is to be frozen to a temperature of 10 F minimum at the rate of 12 gallons per half hour or 24 gallons per hour.

This product load, together with heat leak and service load, calls for refrigeration capacity far in excess of your present two 3-hp air cooled condensing units. We have estimated this hourly load at 42,000 Btu per hour. Most of this load involves the freezing of the product, particularly handling the latent heat of freezing load as the mixture changes from a liquid to a solid product during the manufacturing process.

It appears necessary for radical changes in the equipment in order to obtain satisfactory production. If no changes can be made, then the production capacity must be curtailed to approximately 40% of your proposed production schedule, or approximately 10 gallons of mix per hour instead of 24 gallons.

For production of 24 gallons per hour, additional equipment should be purchased. This additional equipment could be an additional cabinet with coils and condensing units similar to the installation you are now using. Or, if you prefer to attempt to do this job utilizing the present cabinet and coil equipment, larger condensing units will be needed to accomplish satisfactory results.

Using the present cabinet and coil equipment, the temperature ranges should be as follows: average refrigerant temperature, -30 F; brine temperature -10 F, with a 20 degree t.d.; popsicle temperature 10 F, also with a 20 degree t.d.

If you operate the installation under the above suggested temperature recommendations, with the estimated hourly load of 42,000 Btu, it will necessitate using one 5-hp water cooled condensing unit with a capacity of approximately 15,000 Btu per hour at -30 F refrigerant, and one

PLAYSAFE

USE CHICAGO SEALS and VALVE PLATES



Precision lapping, superior construction and simple installation make Chicago seals ideal for replacement.

Only Chicago valve plates have replaceable seats.



PERFECT BALANCE

CHICAGO SEAL CO.
522 S. MONTGOMERY ST. CHICAGO 12, ILL.

LOOK to LARKIN

for Performance



LARKIN TURRET HUMI-TEMP

The acid test of any product is performance. That's why you will find Larkin products used so widely for so many different refrigeration and air-conditioning applications. Users know from past experience that they can count on Larkin for top performance—day in, day out—year in, year out.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

219 MEMORIAL DR. S.E. ATLANTA, GA.

7½-hp water cooled condensing unit with a capacity of approximately 28,500 Btu per hour at -30 F refrigerant, or a total capacity of 43,500 Btu per hour.

If you prefer, one 15-hp water cooled condensing unit can be used with approximately 58,000 Btu at -30 F refrigerant temperature. While this capacity is in excess of your requirements, a 10-hp water cooled unit would not have the capacity to handle this load.

We have estimated that the two 3-hp air cooled condensing units you are now using have only a combined capacity of approximately 17,000 Btu at -30 F refrigerant, or only 40% of the needed capacity. This would, of course, account for most of the difficulty you have encountered in this installation.

The coils installed in the cabinet consisting of 1000 feet of ¾" copper piping should handle the load at a 10 degree t.d. However, an additional 100 or 600 feet of tubing, if it could be installed in the brine, would greatly improve the operation.

Using the present coil equipment, the two 200-foot coils, (400-foot total) should be connected to the 5-hp unit and the two 300-foot coils (600-foot total) to the 7½-hp unit.

The suction lines from these coils should be of the size recommended by the manufacturer for the condensing units used.

Each expansion valve should have a capacity of 1 ton minimum for Freon. However, 1½-ton capacity would be more satisfactory, particularly with each of the 300-foot coils.

If a -10 F brine temperature is used in the cabinet the 4-inch cork insulation is too light for efficiency. An increase to 6 inches of cork would be recommended for this lower temperature.

Another possible solution for the correction of this installation would be to add two additional 300-foot coils a total of 600 feet, which would permit the operation of the condensing units at a -20 F refrigerant. Two 300-foot coils and one 200-foot coil connected to each of two 5-hp water cooled condensing units would furnish the necessary capacity at -20 F refrigerant temperature.

We realize that our suggested changes involve a substantial additional investment in equipment. However, the load figures definitely support the need for additional equipment to secure satisfactory results.

We hope our suggestions will prove to be helpful to you in working out your problem.

SEEGER NET EARNINGS SHOW GAIN IN 1949

The board of directors of Seeger Refrigerator Co. has declared a cash dividend of 25 cents a share and an extra year end cash dividend of 25 cents a share on the company's common stock, both payable Sept. 29 to stockholders of record Sept. 9.

Net earnings of Seeger Refrigerator Co. in the six months ended Feb. 28, 1949, were \$1,837,050 after provision for state and federal income taxes, equal to \$1.67 a share on 1,100,000 shares of capital stock outstanding, Walter A. Seeger, president, has reported. The figures were subject to independent audit and year-end adjustments, he said.

In the corresponding period a year before, the company showed net earnings of \$1,454,478, equal to \$1.32 a share on 1,100,000 shares of capital stock.

BUHL NAMED PHILCO DETROIT DISTRIBUTOR

Appointment of Buhl Sons Co., Detroit, as wholesale distributor of all Philco products in that area is announced by John M. Otter, vice president and general sales manager, Philco Corp.

GLOEKLER NAMES FIELD AGENTS

Gloekler Refrigerator Co., Erie, Pa., manufacturer of commercial refrigerators, has announced the appointment of two new manufacturers' representatives.

Evan N. Pappas Co., of Columbus, Ohio, will represent the company in Ohio, West Virginia, Indiana, and Kentucky, and George B. Wilson, of Baltimore, Md., will be representative in Maryland, Delaware, eastern Pennsylvania, and southern New Jersey.

TRANE EARNINGS

Net income of Trane Co. for the six months ending June 30, 1949, were \$1,235,101, on sales of \$11,438,418, as compared to net income of \$1,342,729 on sales of \$10,614,074 for the same period of 1948. Net income per common share for the 1949 period was \$2.36, against \$2.59 for 1948.

CENTURY EARNINGS

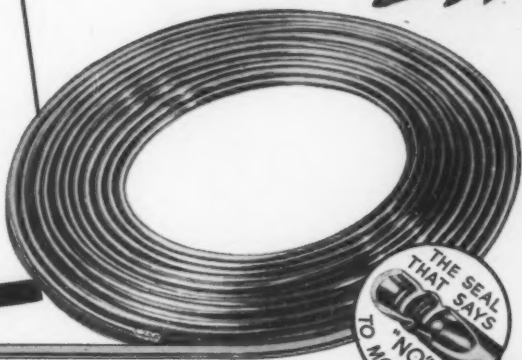
Century Electric Co. for the six months ended June 30, 1949, reports net profit of \$36,427 after provision of \$22,000 for taxes, on net sales of \$6,178,385.



**Pretty Soft
for You...**

when you install easy-bending

DRYSEAL
REFRIGERATION TUBE



● It's a cinch to make a neat, fast, moisture-free installation with Dryseal. For this uniformly dead-soft tube can be bent with the hands with ease. And the mechanical seal at each end of the tube, which permanently keeps the inside bone dry and free from dirt, poses no problem because the seal has the same diameter as the tube and will pass through any opening large enough for the tube itself.

Also, you'll have no trouble at all with the ends when you flare them for compression fittings, because of the ductility and soft temper of the copper used in Dryseal Tube. It's readily workable and will not split.

Dryseal is made to new, more economical dimensional standards with tube sizes from $\frac{1}{4}$ " to $\frac{3}{4}$ " O.D. It comes neatly packed; two 50-foot coils to the carton. Carton is attractively designed so that

it is easy to identify in stock. All of which makes for an easier, faster, trouble-free quality installation.

Ask your distributor about Dryseal next time you order refrigeration tube. He has Dryseal and will give you prompt delivery.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.;
Los Angeles and Riverside, Calif.; New Bedford, Mass.;
Rome, N. Y.—Sales Offices in Principal Cities,
Distributors Everywhere.

WE HAVE IT!

CAPACITORS

ANY AND ALL TYPES

AVAILABLE LOCALLY



• Count on Aerovox for that motor-capacitor replacement! You'll get the RIGHT type in a jiffy. First, use the up-to-date Aerovox listing to select the right type—either a Universal or an Exact-Duplicate number. Then go to local Aerovox distributor who carries a representative stock to supply your needs. QUICKLY.

• Ask for the latest Aerovox motor-capacitor literature. Or write us.



FOR RADIO-ELECTRONIC AND INDUSTRIAL APPLICATIONS

AEROVOX CORP., NEW BEDFORD, MASS., U.S.A.
Export: 13 E. 40th St., New York 16, N.Y. • Cable: 'ARLAB'
In Canada: AEROVOX CANADA LTD., Hamilton, Ont.

Useful LITERATURE

The publications listed below are available to readers without charge. Simply list on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

462—Soldering Fluxes . . . A new technical service data sheet (No. 5-2) issued by American Chemical Paint Co. describing its Flosol soldering fluxes. The fluxes are for use in the soldering of sheet metal and other products constructed of carbon and stainless steels, brass, copper, tin, terne plate, zinc and galvanized iron. Various grades are made, including liquids, paste and cream forms.

463—Commercial Cases . . . Two catalog sheets issued by General Refrigerators Corp. illustrating and describing its "Mighty Midget" display case and its new line of dry-type beverage coolers. Literature lists features, specifications and prices.

464—Cooling Coil Data . . . Bulletins issued by Refrigeration Economics Co. listing complete applications data for its line of air conditioning coils. Includes 12 charts to help in determining coil size, number of rows, etc. required.

465—Electrical Connectors . . . A catalog issued by Ilco Copper Tube & Products, Inc., showing its line of electrical connectors and accessories. Products include various types of solderless lugs, neutral bars, terminal block connectors, soldering lugs, fuse clips, service connectors, terminal lugs, etc.

466—Cooling Coils . . . A new 56-page catalog just issued by Larkin Coils, showing its complete line of commercial and industrial refrigeration and air conditioning equipment. Lists data on air conditioning coils and units, bare tube coils, blower coils, condensers, heat exchangers, etc. Contains engineering data and tables. No list prices shown in catalog; separate price list is keyed to catalog for easy reference.

467—Refrigeration Controls . . . A new condensed catalog describing its complete line of refrigeration and air conditioning controls, just issued by White-Rodgers Electric Co. Contains complete information on room thermostats, space thermostats, relays, pressure and "hydraulic-action" temperature controls. Also lists several controls for special applications such as "explosion-proof" thermostats and automatic defrost controls. Gives data on applications, performance, dimensions, electrical ratings, prices.

468—Brass and Iron Cocks . . . A bulletin (No. 100-1) issued by Minneapolis-Honeywell Regulator Co., Belfield Valve Div., covers the Belfield line of extra grade cocks recommended for shut-off service where long life and trouble-free operation are important considerations. Includes illustrations and sectional drawings, with brief descriptions of principal products.

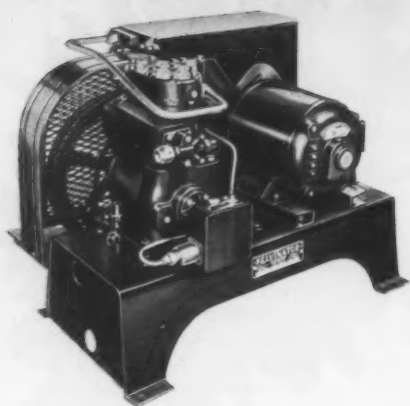
469—Steel Tubing . . . A new bulletin on steel tubing for the food processing industry, announced by the Babcock & Wilcox Tube Co. It concerns tubing and pipe suitable for conveying lines of heat transfer units for the processing of milk, cheese, ice cream, soup, soft drinks, fruit, vegetables, beer and ale. Bulletin is designated as TA 1517.

470—Frozen Food Photos . . . A 24-page catalog, describing a fine selection of "Akravue" three dimension, natural color pictures, ideal for ice cream and frozen food merchandising use, issued by Bond Displays, Inc., Ardmore, Pa. Pictures are available in two standard sizes—10" x 8" and 14" x 11" to fit in superstructures of cabinets or in wall or shadow box installations. Featured are vegetables, fruits, fowl, meat, seafood, ice cream dishes, etc.

471—Automatic Fountain . . . A new four-page folder illustrating and describing the Mills 400-C automatic fountain, just issued. The new vending stage mechanism is shown in detail to emphasize the tamper-proof feature, ease of operation, and reduced servicing made possible by the new arrangement.

472—Pressure Regulators . . . Air Reduction Sales Co.'s new 32-page catalog covering its complete line of pressure regulators. Includes regulators for welding, cutting, special flame processes, for administering anesthetic gases for maintaining gaseous pressures in electrical equipment and other operations where controlled gas pressure is required. Catalog illustrates 26 regulators and describes over 100.

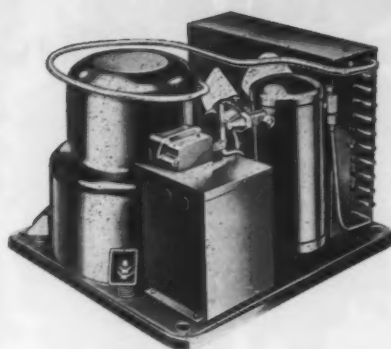
473—Multi-Circuit Pyrometer . . . A new information bulletin on its Type 1200 portable multi-circuit pyrometer. A direct-reading instrument particularly useful in making tests involving temperature rise of various portions of an electrically operated device, or repetitive tests on a group of devices.



Kelvinator Open Type Condensing Units
($\frac{1}{4}$ H.P. to 1 H.P.)



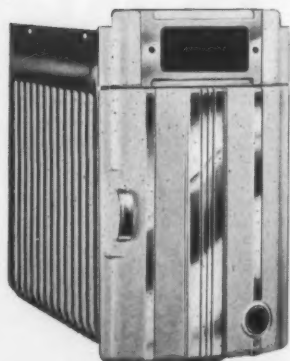
Kelvinator Water Coolers
(Pressure and Bubbler types)



Kelvinator Sealed Type Condensing Units
($\frac{1}{4}$ H.P. to $\frac{1}{2}$ H.P.)

Kelvinator— *great name—for greater sales!*

Again and again, profit-minded refrigeration men choose Kelvinator—for products that are trouble-free in performance . . . competitive in price . . . backed by the name that wins an immediate welcome with users everywhere. Yes! Kelvinator is the name that *always* sells, *always* satisfies. See these quality products at your nearest Kelvinator supply depot. All types and sizes available for immediate shipment. Write, phone or stop in for quick service or helpful information. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.



Kelvinator Stainless Steel Evaporators



Kelvinator Silica Gel Driers



Kelvinator Compressors
($\frac{1}{6}$ H.P. to 5 H.P.)

DEPEND ON KELVINATOR FOR ALL YOUR REFRIGERATION NEEDS

NEW Products

For further information on any of these products, simply list on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

"3-in-1" Case • • • • • P-484

Product: Model GQ "3-in-1" double duty—self service and service—case.

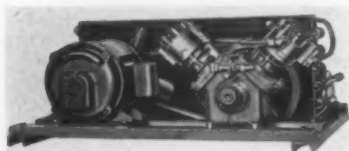
Manufacturer: McCray Refrigerator Co., Kendallville, Ind.



Features: Designed to help food merchants speed service and boost impulse sales. While customer waits for purchases from service meat section to be weighed and wrapped, she can pick up dairy products or vegetable products from the self-service section. Both sections operate from one condensing unit. Refrigeration is by McCray "Koldflo" system. Temperatures in self-service section are 35 to 41 F on the shelf, 40 to 44 F 10 inches above the shelf. Self service section is removable, so case will go through any door that will pass standard meat cases.

Refrigerated Truck Unit • P-485

Product: ¾-hp and 1 hp "Blue-Cold" condensing unit specifically designed for truck hold-over plate applications.



Manufacturer: Lehigh Mfg. Co., Lancaster, Pa.

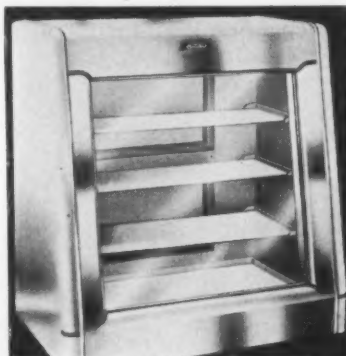
Features: Low over-all height of

13 inches. Heavy angle iron base. Flexible connections between pump and condenser to compensate for road shock and truck vibration. Receiver can be furnished mounted on unit or, if depth dimension is critical, the receiver can be furnished detached from the unit for mounting at any convenient location on the truck. Powered by heavy duty Lehigh E-55 4-cylinder refrigeration pump with 1½ inch bore and 1¾ inch stroke.

Low-Temp Case • • • • • P-486

Product: Low temperature full vision display case for merchandising ice cream confections, pastry, and frozen food.

Manufacturer: Coldin Cabinet Co., New York City.



Features: Four low-temperature shelf plates for maximum display. Cabinet insulated with 4 inches of Zerocel low temperature insulation. Case will maintain constant zero F temperature. Full vision triple plate thermopane glass front to minimize fogging and sweating. Available in 4, 5, and 6-foot lengths (larger upon request). Choice of any finish in all colors in baked enamel, grained wood finish on steel, all stainless steel, and all porcelain.

Air Drier • • • • • P-487

Product: "Oasis" air drier.

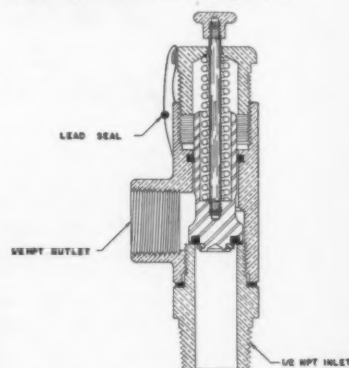
Manufacturer: Ebco Mfg. Co., Columbus, Ohio.

Features: Will take almost 3 gallons of excess moisture from air every 24 hours in average sized closed area under high temperature and humidity conditions. Equipped with 1/6-hp hermetically sealed condensing unit. For convenience in disposing of water, a removable galvanized container is furnished, or a garden hose can be easily attached for draining off water. Measures 12½ inches wide, 20 inches high, and 21¾ inches long. Warranted for 5 years.

Freon Relief Valve • • P-488

Product: Freon relief valve (CGA 1½-2) to eliminate Freon leakage.

Manufacturer: Black, Sivalls & Bryson, Inc., Kansas City, Mo.



Features: Consistently seats tightly even after repeated "popping". Popping tests, in which a single valve was popped by Freon pressure as much as 200 times, have found the valve Freon-tight after each closing. Designed to meet two major requirements: to assure a tight seating valve and to permit installation of a "Safety Head" rupture disc on the outlet of the valve, without impairing proper opening of the valve. Possibility that bits of dirt or scale may lodge beneath the valve plug and keep it from closing tightly makes it wise, where large amounts of Freon are involved, to use a Safety Head rupture disc with the valve. If valve should leak, rupture disc will temporarily hold gas in system.

BUY FROM YOUR REFRIGERATION WHOLESALE

Current Indicator • • • P-489

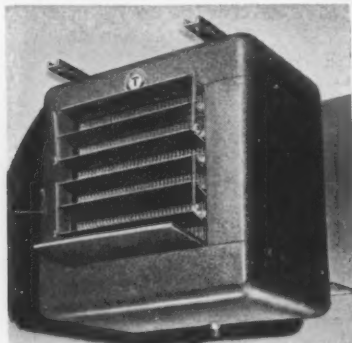
Product: "Mini-Amp" burnout-proof miniature current indicator.

Manufacturer: Industrial Devices, Inc., Edgewater, N. J.

Features: Less than 2 x 2 x 1 inch in size with an opening in the center through which is passed the line carrying the current. Depending upon the number of turns through the center, a neon indicator lamp glows at minimum amperage flow. Available in different ampere ratings, these devices can be used to check motors and similar electrical equipment for overloads. Accuracy is held within 5% and does not depend upon kind of insulation, line voltage, or manner in which wire turns are made. Will withstand rough usage; neon indicator guaranteed for service life of 25,000 hours.

Unit Coolers • • • • • P-490

Product: New line of improved unit coolers covering wider range of capacities and offering more precise unit selection.



Manufacturer: Tenney Engineering, Inc., Newark, N. J.

Features: Btu exchange rate ranges from a low of 2265 at 10 degrees t.d. for the smallest unit to a high of 34,270 at 20 degrees t.d. for the largest unit, with variations of rate depending upon total temperature differences and capacities. Capacities are based, for operation, on a defrosting cycle, motor at full speed, with continuous fan operation. Cfm of air circulated ranges from 600 to 2000, depending on the size of the unit and fan, and whether single or dual fans are used. Each unit

has dual directional louvers and integral heat exchanger.

Apartment Unit • • • P-491

Product: Model U-4 undercounter 4 cu. ft. refrigerator for limited space areas such as efficiency kitchens, trailers, boats, offices, etc.

Manufacturer: Westinghouse Electric Appliance Div., Mansfield, Ohio.

Features: Measures 34½ inches high, 24 inches wide, and 27 inches

deep. Requires only 24 inches of space for an 80-degree door opening. Includes a .45-cu. ft. freezer which will hold 16 pounds of frozen food or two 14-cube ice trays. Room for eight quarts of milk or other tall bottles. Equipped with exclusive automatic "Hold Cold Control" which provides necessary temperatures in the freezer and normal temperatures in the food compartment. Anodized aluminum tray for storage of meat or

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Refrigeration tubing that shows better results in a test tube is bound to be "Superior" for all installations. "Superior" seamless tubing is always uniform in quality, annealed to specifications, clean, bright, and positively dry. Super-Seal, Penn's new tube seal, carefully guards the cleanliness and dryness of "Superior" tubing right up to the installation point. Available from 1" O. D. to capillary .093" O. D. Get the tubing that is best by test—specify "Superior."

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Penn's new personalized package, Job-Pak, is designed to give plenty of protection to "Superior" tubing. Sturdy cartons are ready for re-shipping and clearly marked for quick identification. Space for imprinting or labeling your name makes Job-Pak your own "Superior" package. Write for new tubing literature and charts and Papco tube tool folders. Dept. BT2.

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ice cubes, or for defrosting. Sealed compressor unit is spring mounted and powered by 1/6-hp motor. Cabinet of "Dulux" finished steel.

Sandwich Unit • • • • P-492

Product: Model SB-5 refrigerated sandwich unit.



Manufacturer: Fogel Refrigerator Co., Philadelphia, Pa.

Features: Boasts 5 cu. ft. of refrigerated storage space, an ice cube

freezing compartment with capacity of 144 cubes (six standard trays), and a 12-position temperature control with defrost and tray defrost. Compact cabinet measures 36 inches high, 27 inches wide, 27½ inches deep. Comes complete with a 1½ inch-thick selected maple work top, detachable crumb box, and eight 6 x 6 x 3 inch salad pans inset in the work top which are cooled by conduction from the refrigerated compartment below. A roll-down hood covers the pans when not in use. Powered by Freon-12 hermetic compressor. Welded steel cabinet finished in baked-on enamel.

Dehumidifier • • • • P-493

Product: Model 53 F "Humidry" large capacity, semi-portable dehumidifying unit operating on a refrigeration principle.

Manufacturer: Carrier Corp., Syracuse, N. Y.

Features: Built around a 1/3-hp condensing unit, this dehumidifier has capacity for removing 34 pints of moisture per day under room conditions of 80 F and 70% humidity. Designed to be safely installed in any convenient location. Requires plug-in electric connection and floor drain for moisture disposal. Receiver of heavy steel, hydrogen brazed and equipped with integral liquid shut-off valve. Expansion valve regulates control of refrigerant automatically. Drain pan collects moisture from evaporator coil.

Floor Insulation • • • P-494

Product: Rigid, asphalt-enclosed, cold storage floor insulation board (Fiberglas AE-F Board) for low temperature applications.

Manufacturer: Owens-Corning Fiberglas Corp., New York City.

Features: Component glass fibers are arranged parallel to action of load, providing increased compression resistance. Designed specifically for use under wearing slabs of cold storage rooms. Under floor loadings up to 1000 pounds per sq. ft. it will compress less than 1%. This compression is not progressive. Density of board is 6 pounds per cu. ft. Heavy asphalt coating that completely surround the insulating core prevents penetration of hot asphalt em-

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**Two bulletins showing how
NEW G-E MOTOR EXCHANGE PLAN
cuts machine down time**

Get the story of the new time and money saving General Electric exchange plan for Tri-Clad integral-hp motors! It's an extension of the highly successful G-E fractional-hp motor exchange plan and covers most popular types of Tri-Clad open dripproof motors—one to five hp. Bulletin GEA-5189 is for motor users; Bulletin GEA-5180 is for machinery manufacturers. Write on your letterhead FOR FREE COPY: Apparatus Department, General Electric Company, Schenectady 5, N. Y.

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leading appliance manufacturers are listed among Grand Rapids Brass customers. Because in building the

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products, in terms of quality and value, it is only natural that they select hardware for their

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that will give you and your customers assurance of satisfaction, outstanding quality and workmanship.

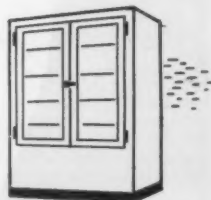
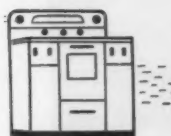
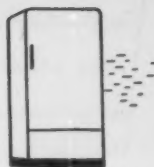
Manufacturers of hardware for COMMERCIAL REFRIGERATORS, DOMESTIC REFRIGERATORS, GAS STOVES, WASHING MACHINES, ELECTRIC RANGES

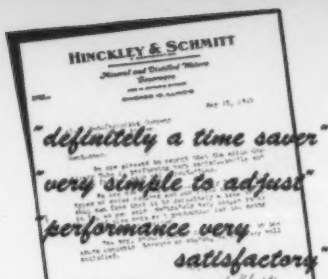
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—so writes Frank Kloss, Service Supervisor of Hinkley & Schmitt, World's Largest Water Distributors.

NEW ALLIN CAPILLARY TUBE

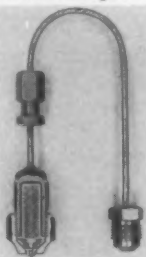
Easy external adjustment—for ALL refrigerants—on any job from 1/4 H.P. to 1 H.P.

Large area 150 mesh Monel screen protects orifice against clogging.

Straight-through design provides accurate means of metering refrigerants

ASK YOUR WHOLESALE
or write direct for additional
information and prices.

Copy of Hinkley & Schmitt letter available upon request.



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GENERAL CONTROLS engineering offers tremendous savings in inventory investment, stock space and handling costs.

THE NEW SELECTIVE CAPACITY CARTRIDGE PROVIDES INSTANT SIZING ADJUSTMENT

COMPARE THESE FACTS

ORDINARY VALVES—Separate valves for each back pressure or suction temperature range. Separate valves for each capacity size.

GENERAL CONTROLS V-200 VALVES—One valve for ALL back pressure or suction temperature ranges. One valve with selective cartridge for full range of capacities.

For Freon, Methyl Chloride and Sulphur Dioxide

For Full Capacity Range in each body size at all back pressures with any one refrigerant

ONLY ONE VALVE REQUIRED FOR COMPLETE INVENTORY

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Wholesalers of Refrigeration Equipment, Temperature & Flow Controls
FACTORY BRANCHES AND DISTRIBUTORS IN
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played during installation to form vapor barrier. Available in 2 and 3-inch thicknesses, 12 inches wide, and 36 inches long.

Air Diffuser P-495

Product: Square air diffuser (Type E) that aspirates and distributes air equally and draftlessly over the full arc of 360 degrees.

Manufacturer: Anemostat Corp. of America, New York City.



Features: Harmonizes with rectangular and straight line architectural designs. Flush with ceiling, it fits readily into standard sizes of acoustical and egg-crate ceilings. Can be combined with all types of lighting fixtures. Available in 9 different neck diameters ranging from 4 to 14 inches. Like Standard Anemostat diffusers, this new square unit provides 35% aspiration by virtue of its unique patented design. Can be installed easily and quickly. Simple snap-on method permits instant removal or insertion of complete inner assembly.

Junction Block P-496

Product: Thermosetting phenolic electric junction block, called Nu-Blok, Jr., for wiring of freezers, re-



frigerators, water coolers, and similar appliances.

Manufacturer: United Mfg. & Service Co., Milwaukee, Wis.

Features: Contains an outlet for standard attachment cap assembled to lead extending from sealed or open type compressors to facilitate quick service in the field. Unique "short proof" method of isolating splices in three segregated wells. Short-circuiting due to faulty soldering or stray strands thus is minimized. Outside dimensions are 2x1 3/4 x .850 inches. Brass eyelet secures laminated phenolic cover and serves as channel for a No. 10 mounting screw or bolt. All parts conform with Underwriters' dimensional, dielectric and heat resistance standards.

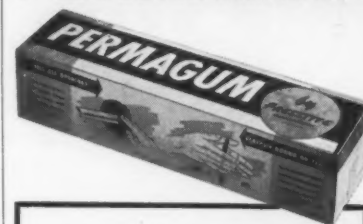
Milk Cooler P-497

Product: Model S2-7A "Cool-er" small-size milk cooler.

Manufacturer: Westinghouse Electric Corp., Pittsburgh, Pa.

Features: Designed especially to serve farms which have fewer than 10 cows in dairy herds, or to cool

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THE PERFECT READY-TO-USE SEALING COMPOUND

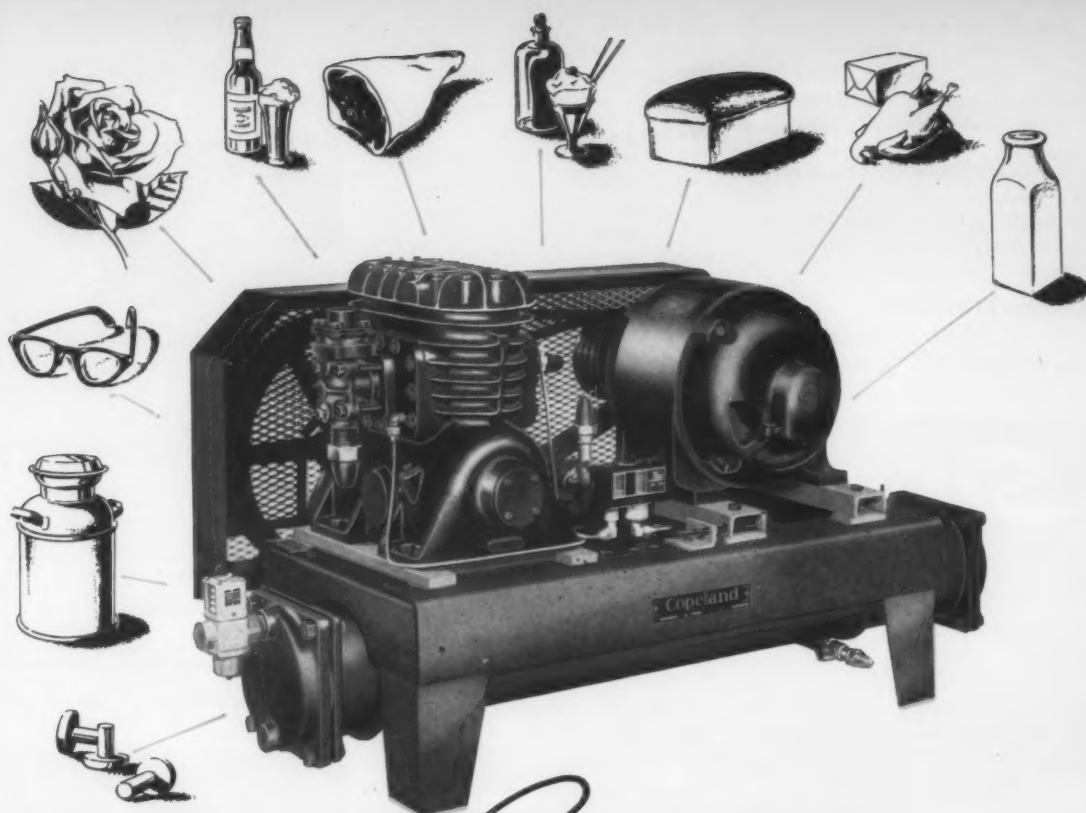
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2 1/2 pound package **85¢**

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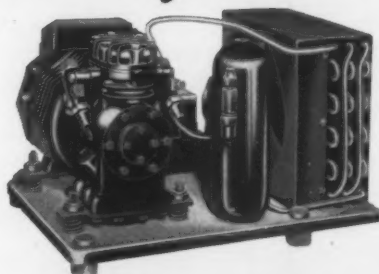
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DEPENDABLE *Electric* REFRIGERATION

Locker plants, dairies, florists, taverns and soda fountains are among the good prospects when you sell Copeland. It's the unit line that meets every need better. You sell Copeland with confidence because Copeland units give dependable performance.



COPELAMETIC

The Accessible Hermetic

Famous Copelametic combines all the best features of open and welded-in units, provides unusual compactness, sturdiness, long life and economy. Another great Copeland development to advance refrigeration!

1/6 H.P. to 7 1/2 H.P.

COPELAND REFRIGERATION CORPORATION • SIDNEY, OHIO

Manufacturers of
REFRIGERATION UNITS (OPEN-TYPE AND COPELAMETIC), WATER COOLERS, REFRIGERATORS

cream at larger dairies. Has room for either three 5-gallon or two 10-gallon cans of milk or cream, and can cool them from 90 F down to 50 F in one hour. Cabinet is of standard big-cooler construction, of heavy-gauge galvanized steel, well insulated and equipped with an hermetically sealed refrigeration unit and a motor-driven water circulator.

\$25,000 FIRE LOSS

Fire of undetermined origin caused approximately \$25,000 damage to the

building and stock of Grady Le Croy Refrigeration & Air Conditioning Co., Hot Springs, Ark., recently.

STURTEVANT OPENS BIRMINGHAM BRANCH

The Sturtevant Div. of Westinghouse Electric Corp. has established a field office in Birmingham, Ala., with V. E. Barnes, formerly of Atlanta, as manager. Offices will be in the Brown-Marx building. The Sturtevant Div. manufactures air conditioning and air handling equipment.

TABLE-TOP UNITS



General Air Conditioning Corp. of Los Angeles now is in volume production on this combination 4-burner gas range and 4-cu. ft. electric refrigerator for use in small homes and apartments, offices, or other places where space is at a premium. Also available with a two-unit electric range, the unit occupies only 27½ x 21½ inches of floor space. Triple insulation prevents the heat of the range from affecting refrigerator temperature. The refrigerator is powered by a Tecumseh hermetic unit and insulated with Fiberglas.



Newest thing in table-top refrigerators for apartment and small home use is this drawer-type model offered by Acme-National Refrigeration Co., Inc., Brooklyn, N. Y., under the trade name of "Tru-Zone." Top drawer panel conceals a slide-out vegetable crisper and three ice cube trays. In addition to further food storage space. Chief features claimed by the manufacturer are the ability to see at a glance the contents of the entire refrigerator, and the ready accessibility of all foods stored. Cabinet is 36 inches high and provides 6 sq. ft. of working surface. Drawers have nylon roller bearings, "floating" slides which provide perfect balance, and automatic locks.



POWERS ALL PURPOSE SERVICE BODY

for refrigeration and air conditioning contractors

Tools and supplies for a day's work can be carried in the Service-Master — no need for frequent returns to the storeroom. Weather-tight compartments, equipped with shelves and parts bins, provide orderly and easily accessible storage space for small items. The 48½" wide loading area readily accommodates bulky equipment and materials. Service-Master Bodies are available from distributors throughout the country for installation on ½, ¾, and 1 ton chassis. Write for full particulars.



Optional equipment includes: overhead ladder racks; side mounted pipe racks; rear bumper and stop; inside tire carrier; padded tie rails on interior sides and head panel.

COMMERCIAL BODY DIVISION
McCABE-POWERS AUTO BODY CO.
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COOLING FIRM FILES

A business name has been filed in the Erie county clerk's office for Reed's Refrigeration & Appliance Service, 312 Belmont, Buffalo, N. Y.

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REFRIGERATION AND
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NOVEMBER 14-18*

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DON'T FORGET . . . you're cordially invited to meet the gang from Ranco at the Atlantic City ALL-INDUSTRY Show, November 14-15-16-17-18. We'll be looking for you in Booths 626 and 628 at the Auditorium.

And look for the new Ranco exact replacements which have been added to the wholesaler line—the most complete line of Replacement Controls ever supplied to the trade.

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World's Largest Manufacturers of Refrigeration Controls
. . . more than 20,000,000 controls now in use

HERE'S HOW!

Edited by
Warren W. Farr

Here's How to Check Cylinder Cleanliness

To determine whether a cylinder is dirty or clean, the following simple procedure may be used.

Evacuate the cylinder and introduce into it just enough methyl chloride or Freon-12 (usually 3-4 oz. will suffice for a service cylinder) to leave liquid refrigerant in the cylinder. This acts as a wash.

Note: Do not use other wash materials such as carbon tetrachloride, since they may introduce moisture and are difficult to remove from cylinder.)

Shake the cylinder vigorously for a few minutes to dissolve and/or suspend any oil, sludge, or solids. Invert the cylinder and drain the liquid into a clean glass or metal container.

The refrigerant will evaporate within a few minutes. If a residue of oil, sludge, or solids remains after

evaporation, the cylinder must be cleaned before being used for charging.

A residue of water remaining after evaporation is no evidence that the cylinder contained moisture, since evaporation of refrigerant in contact with moist air always results in the condensation of water. If the service cylinder has been properly cleaned and this test fails to show the presence of oil or other contaminants, it may normally be assumed that moisture is absent.

However, a cylinder from which the air has been evacuated may, when opened in moist air, receive some moisture with the entering air. How much moisture enters will depend on the amount present in the air and the quantity of air introduced.

Subsequent evacuation of this cylinder prior to filling with refrigerant will remove the major part of the moisture carried in with the air. To be certain that the cylinder is completely dehydrated, it is advised that oven drying be resorted to.

Condenser Cleaning Is The Customer's Job

Completely automatic mechanical marvel though it is, the modern electric refrigerator still has one vulnerable point—one "Achilles heel"—which it is the responsibility of the customer, whether housewife or merchant, to protect.

This one point is the condenser, and it would be a wise move on the part of every installation mechanic or serviceman to make sure that each of his customers is familiar with the condenser and is aware of the occasional cleaning which it requires.

In every household and every commercial establishment there is some dirt, dust, and lint. This dust, dirt, and lint is carried around by air movement. When, in the course of

its travels, it settles upon the refrigerator condenser and forms a coating that blankets the condenser and insulates it.

Thus, this coating tends to hold the heat in the condenser and keep it from dissipating itself into the room air as it normally should do. This, in turn, causes the heat to be held inside the refrigerator and may make the refrigerator become warmer inside. In any event it will make the cooling unit work harder and run longer to get the heat out, consequently making the refrigerator more costly to operate.

If you can impress that one important fact—that story of operating costs—upon your customer, you have won half the battle. Your next move is then to give the customer a few helpful pointers on how to clean the condenser, and how often.

The frequency of cleaning required, of course, depends upon how

WANT TO EARN \$5



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to HERE'S HOW EDITOR, COMMERCIAL REFRIGERATION AND AIR CONDITIONING. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

I do it this way...

IN FUR districts and other places where the rapid accumulation of dust and small fibers soon clogs up a filter, I have found that machine parts such as the blower motor also suffer. Where no provision normally can be made through filters to protect these parts, including the compressor unit, I use a filter before filters over the entire unit.

This consists of a large piece of gauze or mosquito netting which can be easily wrapped or draped around the entire unit which is suffering from air pollution. A filter such as this is cheap to replace, and can be replaced by the customer himself every week if necessary. Also, the large surface area involved is slow to clog.

Chas. Doyle,
Brooklyn, N. Y.

clean up with

QUICKEE

America's fastest acting, fastest selling WATERLESS HAND CLEANER made with gentle Lanolin fortified with Cholesterol

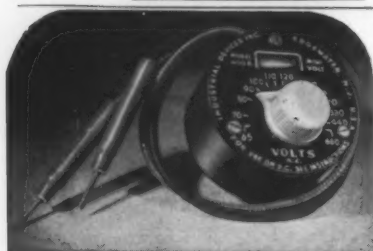
Removes grease, grime, paint, tar, mastics, etc. without water. Just rub it on and wipe it off!

For your own use or for re-sale get

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and CLEAN UP!

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CHEMICAL SPECIALTIES, INC.
NEW YORK 22, N.Y.



MINI-VOLT

Instantly read voltages right off dial. 65 to 660 v. A.C. Also D.C. Virtually burnout-proof. Lamp guaranteed for 25,000 hours. Plastic case. 12" flexible test leads. And only \$2.75 list!

- Not only distinguishes between 110, 220 etc. volts, but measures line voltage close enough to show up 2 volt drop between meter and load terminals on 110 v. line.

- No refrigeration serviceman need now be without definite knowledge of whether faulty operation of motors, magnetic valves, etc. is due to improper terminal voltage.

- Checks for blown fuses, accidental grounds, circuit continuity. Useful for electrical troubleshooting in general.

- Not subject to error of "false indication" common to neon test lamps.

It's a "must." Saves time, money, life and limb! Order from supplier, or from

INDUSTRIAL DEVICES, INC.,
EDGEWATER 11, N.J.

dusty the location is. In most households, a couple of times a year is often enough—say at fall and spring housecleaning.

Both sides of the condenser should be brushed off with a light brush, or the dust may be blown off or sucked off with a vacuum cleaner. It should not be washed, just dusted off.

Be sure to caution your customers to disconnect the refrigerator unit before attempting to clean the condenser. Otherwise the thermostat may happen to turn the unit on during the cleaning and possibly injure the person doing the cleaning.

Most commercial refrigerators and also air conditioners have condensers similar to those on household units but of course larger. Moreover, these larger refrigerators frequently are located in places which are much more exposed to dust and dirt than the average household, so the condensers on these units should be cleaned at least twice as often as those on household refrigerators—that is, a minimum of once every three months. In many commercial locations it may be advisable to clean the condenser once a month.

Points on Installing Low Pressure Systems

4. *Choosing and installing the refrigerant lines, fittings and any accessories that may be required* is of the utmost importance, and in many cases will require referring to tables and other technical reference data in order to choose the size of lines, fittings, and accessories that will offer the minimum restriction to the flow of refrigerant and maintain pressure drop throughout the system within recognized safe limits. Exceeding allowable pressure drops in both liquid and suction lines, also discharge lines in an evaporative condenser system, will usually result in loss of capacity and efficiency. Like the thermostatic expansion valve, the lines, fittings and accessories must have capacity to balance with the system or, in other words, handle the full Btu load. All joints and connections, whether flare or sweat type, should be well made, sound, and tight, and the horizontal runs of return or suction line free of sags and traps, with a slight fall towards the compressor.

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WRITE FOR FREE, 238 PAGE ILLUSTRATED CATALOGUE
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Rates: for "Positions Wanted," \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15c; boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20c. Box addresses count as five words, other addresses by actual word count. All advertisements in this section are payable in advance.

FOR SALE

FOR SALE: 180 Ton Patterson direct expansion shell-and-tube water chiller. Three refrigerant circuits and one water circuit. Used one year. Perfect condition. Will sell for half of today's market price. Gordon Lozier Corporation, 1612 California, Omaha, Nebraska.

REPAIR SERVICE

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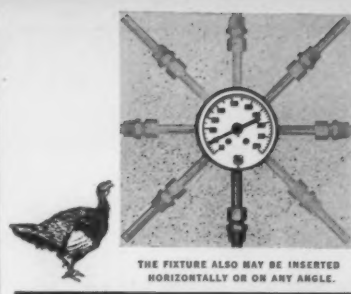
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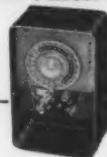
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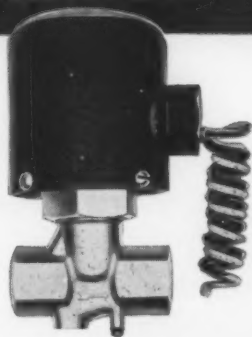
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